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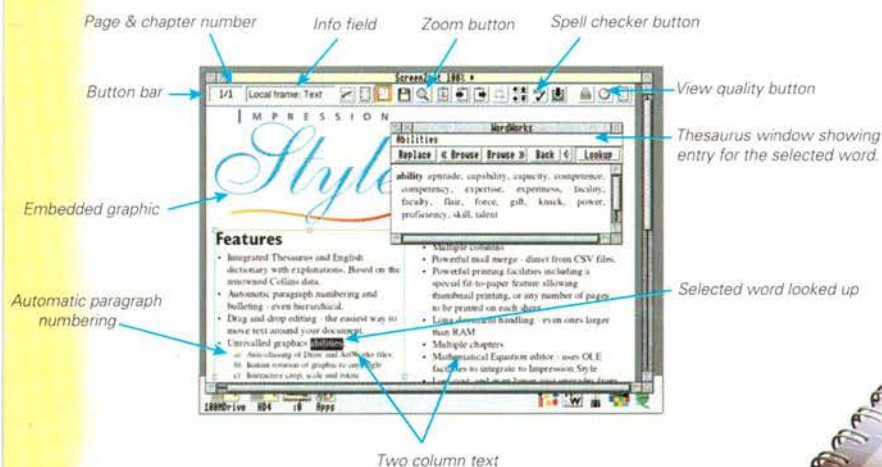
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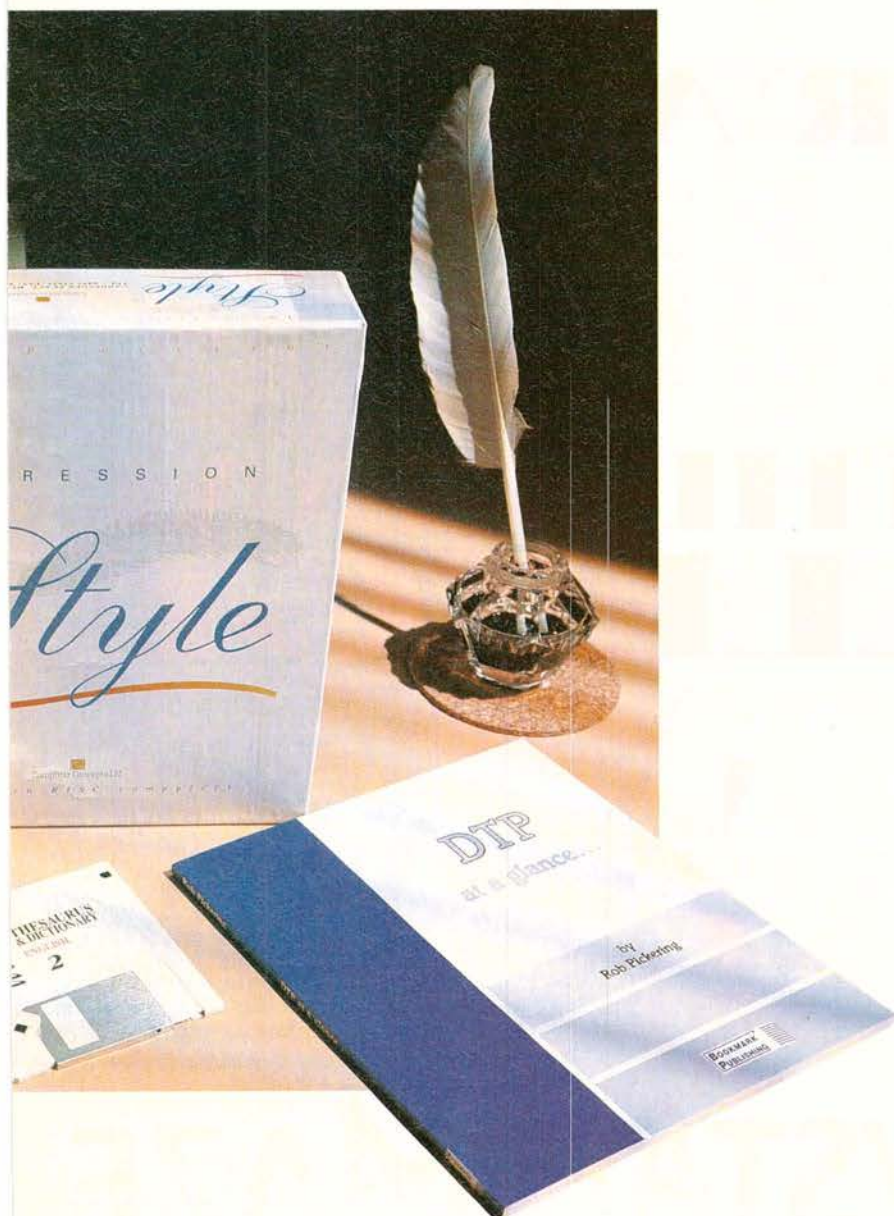


two sorts of on-line help amongst dozens of other improvements.

For those with technical writing needs it includes a mathematical equation editing utility and table building utility. For writers it includes what Archimedes World called "the superb WordWorks dictionary and thesaurus package." Other features that help make Impression Style a better text processor include automatic abbreviation expansion - one of the greatest time saving features available, drag and drop editing, an optional, configurable tool bar, along with firm favourites such as spell check as you type.



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Archimedes World, Feb 1994

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Acorn User, Jan 1994

"There is no other product on the Acorn platform to touch this, whether at the £100 asking price point or at £500. Every writer should own a copy."

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Refer to table for special upgrade offers.

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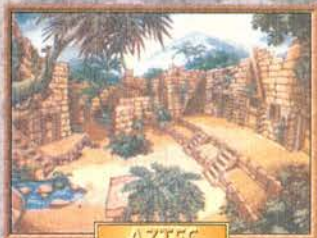
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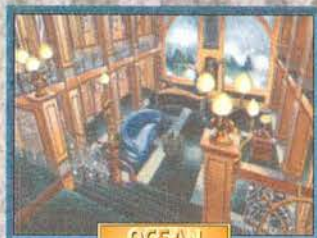
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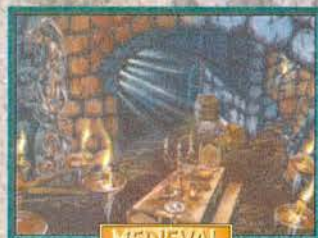
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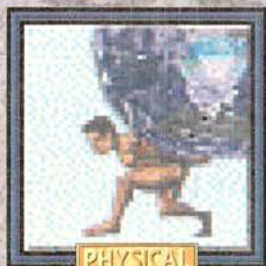


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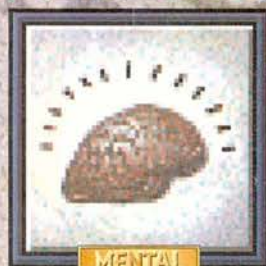
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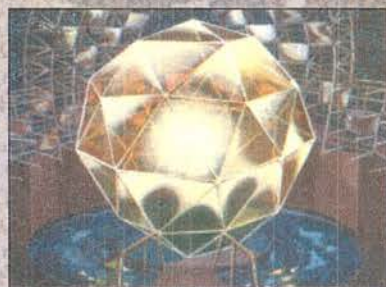


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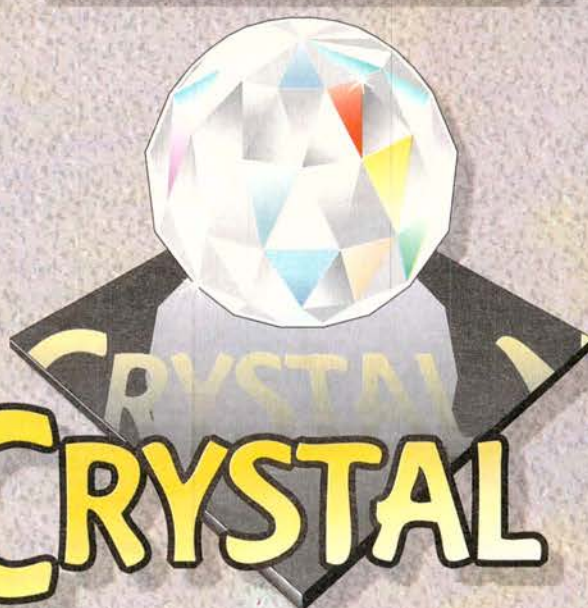
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Risc User, December 1993



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Acom Computing October 1993

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Professional Desktop Publishing

ACORN'S next big market is going to be in the professional publishing field and this month we examine two new products that will help to take Acorn there.

See Page 24



REGULARS

Comment 15

Do you want a new operating system? Steve Turnbull explains what one is and why you might like one.

News 17

All the latest news of products and events taking place in the fast changing world of the Acorn computer.

TechForum 53

Are you an expert programmer? Our hints & tips series is just for you with ideas and algorithms to help you work.

Public Domain 57

Teri Paul is back again with her pick of public domain and shareware programs to enhance your computer.

Databay 72

Game gossip, interviews and up-to-the-minute news picked up by HAL, our electronic ear to the ground.

Body Building 75

Do experiments and play games with sauce bottles using Mike Cook's ketchup bottle simulator.

Problem Solved 85

Our technical editor opens his mail and shares the secrets behind some of those tricky hardware problems.

Letters 88

This is your opportunity to voice your news, ideas and views on everything in the Acorn world from viruses to joysticks.

REVIEWS

Impression Publisher 24

Finally, one of the packages needed for true professional publishing has arrived, but can it stand up?

Photodesk 30

The first of the new wave of 24-bit colour-capable graphic packages has arrived - we preview its capabilities.

Learning Curve 33

We survey the latest in educational software for the Acorn computers:

- Time Detectives - The Victorians
- 10/10 Maths - Statistics
- Key Plus 3.00

Squirrel 2 43

In the wake of other upgrades, we check out this new version of the powerful relational database.

FEATURES

MegaDisk 8

Check out what's in store for you this month on the best cover disk available for the Acorn 32-bit RISC OS range.

32-bit Subscribers 10

Our special extra subscriber's disk is jam packed full of goodies so find out what's on it this month.

BBC Disk 12

Full details on what's on the subscription disk for the 8-bit BBC Micro this month, and how to use it.

PhotoCD 39

In the final part of this series on PhotoCD we look at the hardware that you can get to use on your Acorn machine.

Graphics 46

Don't be offended if Mike Goldberg makes signs at you, he's only experimenting with European ideology.

Risc PC: Boot up 49

Discover how the Risc PC is configured and the way you can customise it to fit your own particular needs.

Message in a micro 54

In another of this occasional series you can discover how to use the MessageTrans module supplied in every machine.

Short reviews 61

We check out a new selection of programs and utilities:

- ImageBank
- CD-Fast
- The Tekkie Disk
- Draw_Changer

Screenplay 64

All systems go as we look at the latest for 32-bit Acorn machines:

- Flashback
- Scrabble
- Magnetoids
- Zodiac Collection: Aries
- Caves of Confusion

THE MEGADISK



Britain's best Acorn cover disk contains hours of fun and a host of useful utilities linked to our editorial features to make the magazine come alive on your desktop.

Full details about the packed Megadisk - see Page 8.

Reader reply service

Do you want more information about available products? Starting this month we begin our new reader reply service so you can find out more about the software and hardware being advertised in *Acorn Computing*. Check out the Newsbeat for further details

Subscribe now! — See page 44

SUBSCRIBE to *Acorn Computing* and you'll get an amazing value-for-money deal that beats all our rivals: Not only do you get a whole years-worth of issues for LESS than any other Acorn magazine, 32-bit owners get TWO disks every month.

See Page 44 for details of this unbelievable offer.

If you have a BBC Micro, *Acorn Computing* is the only magazine that still supports you. Every month we have complete programs written specially for you and your computer.

To subscribe turn to Page 44 now.

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The MegaDisk

What's on this month

- Flashback
- Databay
- 32-bit Graphics
- Message Trans

Flashback – Total Recall meets The Invaders

THIS superb conversion from US Gold (021-356 3388) is now available for all Acorn 32-bit machines. Exclusive to Acorn Computing comes a playable demo introducing you to the tricks, traps and deviousness of the first level.

You can read the review of the full game on page 64, but as Conrad B. Hart your mission is a simple one – survive. You awake with no memories, so your first task is to find the Holocube which will set your predicament in context.

Then you'll know where to go and what to do. To get to New Washington you'll need the advice of an old man who – luckily – lives in the forest. Information doesn't

come cheap though and there are mechanical and humanoid foes to get in your way.

Now, there is a way – just think it out and map your way through. Here are some hints to help you get started: Wait until the mechanical attackers' antenna is visible before wasting any ammunition; the D symbols activate doors which may or may not be to your advantage; shields and cartridges can be recharged in the Energy Generators; some people you'll meet may need help and, last clue, stones

Controls

Walk left	Left cursor or A
Walk right	Right cursor or S
Jump	Up cursor or "
Crouch	Down cursor or /
Run	Shift + direction
Run and jump	Shift + direction, Release direction, press up, keep Shift held down
Gun in/out	Spacebar
Roll	Crouch + direction
Roll and run	Crouch + run
Inventory	Tab – selected item in top right of screen
Operate	Shift
Use object	Return
Options	Escape
Increase/decrease speed	+ & -



Databay: Hal's hints and tips

To complement The Databay this month, the MegaDisk contains an application providing a cheat, courtesy of David Brown, for those of you lost in *Cataclysm* as well as a Hacker module for any of you intrepid vikings out there stuck on the islands in *Heimdall*.

Last but not least is a complete map to *Exile*, provided as a drawfile.

Programs from the magazine

If you are following Mike Goldberg's series on graphic and sprite handling on the Archimedes machines, this month's article introduces you to the world of sign. In particular road signs, so when next stuck on your least favourite motorway you can design your version of *Delays Possible Until November 1994*.

One of the modules in your Archimedes is called MessageTrans and the disk contains examples of what can be done with this module. Read Ben Summers' article on page 54 for the full lowdown.



are useful for weighting things down and annoying guards.

You can also use an Acorn joystick. Fire on the joystick replaces the Shift key.

Do try out all the moves before you meet anything nasty – Conrad's movements are extremely realistic and you'll

need all of them.

When jumping, place him under an overhang and hold down the up button until he starts to climb.

Running and jumping is also a

very effective way of getting out of trouble. Remember, practice makes perfect. There is no save option in this version and you are placed in normal mode – the full games comes with easy and expert modes.

Good luck.

Getting started with the MegaDisk

THE programs on this disk are stored in a highly compressed format which sometimes enables as much as 1.6Mb of programs and data to be stored on a 800k floppy disk.

The procedure for running the programs is very straightforward and does not require learning any special methods or techniques.

Switch on your Acorn micro, put the disk in the drive and click the drive icon. Now double-click !ACmenu – there's a

short pause while it scans the archive then it displays a window of the contents. You can treat this new window like any other one for viewing disk contents, and run programs and open directories by double-clicking them.

Large programs must be unpacked by dragging them on to a separate disk before being run. Some may have an !Install program that will do it for you.

We recommend that you always read the !ReadMe files or access the help information via the Help button.

FAULTY DISK?

If your cover disk or 32-bit subscription disk has a physical fault – doughnut won't rotate in the sleeve, disk errors and so on – please return it for replacement to:

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Dowlais
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If there seems to be a fault with one of the programs please contact us by post describing your machine set-up and exactly what happens when you run the program.

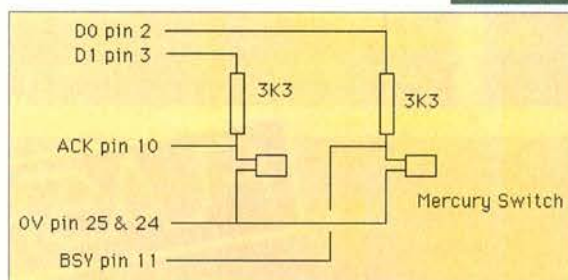
What's on this month

- 8-bit programs
- Sauce bottle testing
- Stunt Editor
- PD selection

Programs from the magazine

SPACE restriction this month means that not all the programs mentioned in the magazine will fit on the cover disk. Mike Cook's Body Building Project this month uses sensors and a sauce bottle. An ideal game for a summer fayre, the winner is the one who shakes the contents out of the bottle first.

For game players, and in particular those with StuntRacer 2000, Hal presents a program from Liam Gretton which lets you edit the characteristics of your saved drivers files to give you an unfair advantage over the competition.



BBC access

IF YOU have a serial link to your old 8-bit machines or want to access Beeb programs on your Archimedes with the 65Host, here is a selection for you. You need Repton Infinity to access *Return to Repton* so you can only run this program on a Beeb.

- Androidz – Save the world and your job
- Mines – Minefield-type game
- Return to Repton – More life to Infinity
- BarMenu – Control codes and bar menus
- Meteor Attack – Destroy or be destroyed

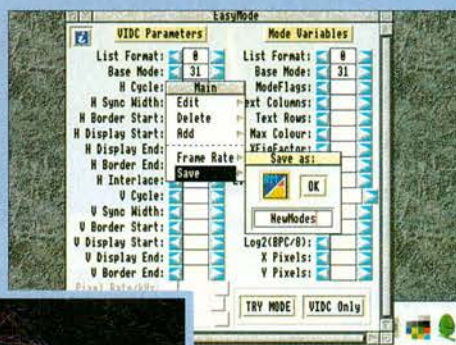
Public domain for all

A HOST of programs including a selection of the ones covered in this month's public domain column:

- Cmos – Saves/resets your Cmos ram settings
- EasyMode – Create your own multiple screen mode extension modules
- EasySound – Play and access samples
- 3DDemo and Tutor – The theory and practice behind three dimensional programs
- APTrack – Compose, sample and synth
- ClownPlay – Access those Coconizer tunes – works on the Risc PC too
- ShutDown – Close down RISC OS 2 just like RISC OS 3

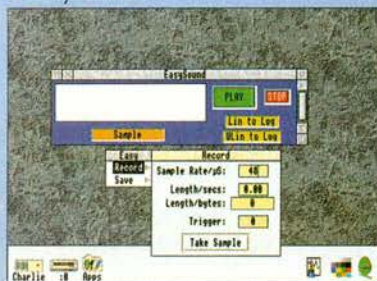


● Cmos



● EasyMode

● EasySound



● 3D Demo and Tutor

● ShutDown



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Oregon PhotoTouch is a painting, professional prepress, and processing system all in one powerful package. Working with photographic quality images up to 24bpp (16.7 million colours), take any photo and turn it into your own creation. Add special effects, and realistically retouch the image until it suits the task for which it is required.

PhotoTouch is an essential tool for owners of all graphics enhancer boards, including the **ColourCard Gold**, which will allow you to be creative in a 16bpp desktop.

For those not owning such hardware, PhotoTouch uses sophisticated rendering techniques to produce a 256 colour image for editing, whilst the 24bpp image is continuously updated in memory, ready for saving when you've finished.



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- Many varied linear, and radial gradient fills
- Morphing, swirls, distortions, and bubbling
- Scratch, ripple and embossing
- Virtual memory management option
- Allows editing of Replay files
- Exports as TIFF, JPEG, Clear, and Sprites
- Imports over 40 foreign file formats

- Requires RISC OS 3.10 or greater •



This represents just a small fraction of the staggeringly powerful facilities offered by PhotoTouch. What's more, Oregon intend to develop this package further still, and upgrades will be sent to existing users, absolutely free of charge.

PhotoTouch supports VIDC20 display modes, ensuring complete compatibility with the new RISC PC.

Oregon is offering this package at an incredibly low launch price of just **£79.95**. However this fully inclusive price will only be held for a short period.

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Androidz: Controlling the lines

IT IS the year 2002. Robots are now responsible for the manufacture of most household items like cars, televisions and even furniture. The robots use a neural network controlled by a main computer. Despite all this technology, humans still keep tabs on the manufacturing process, dealing with any problems which reveal themselves.

For any problems beyond the help of the maintenance crew, the latest addition to the police force – the Robot Apprehension Unit (RAU) – is called in to deal with incidents where robots go out of control due to bugs in their programming, short circuits in the system and so on.

You play the part of one of the RAU officers – a position everyone wants, with a high salary and excitement but only three weeks holiday each year. One officer must stay behind to deal with any calls

that come in during annual hols and if you're lucky, you'll get some reserve officers. However, this year there's a national shortage of officers and you're the one on call – alone.

The three weeks are nearly over, tomorrow everyone is back... then a call comes in. A huge power surge has knocked out the neural networks of 20 factories, robots are on the rampage, killing maintenance crews with the laser welding instruments attached to their arms.

The only hope is for them to be destroyed. It's your job and the media have got hold of the story – your job and reputation are on the line.

Move about each factory level, killing the robots with your single firing laser gun. The robots can, of course, fire back and can sense your heat so converge if you linger too

long. Use the natural cover of the walls and machinery to help, but some places have less cover than others.

Each level starts next to a robot, and you lose a life if you don't move quickly. If you do lose a life, you will be repositioned a little further away from the robots, although this still cannot be guaranteed.

If you fail the task then your tally of kills is assessed by the Chief Superintendent and his report will appear on screen.

Controls

Z	Left
X	Right
*	Up
?	Down
Return	Fire
S/Q	Toggle sound
Delete/Copy	Pause/unpause

Stephen Scott

BarMenu: Simplified selecting

TELETEXT Mode 7 – sadly missing from the Electron – is one of the many great features of the BBC Micro. Its use of special *control codes* in place of spaces to determine display characteristics makes it ideal for bar menus.

A bar menu is a simple, user-friendly means of gaining a selection from a list of alternatives. An option is highlighted using the up and down cursor keys, and selected using return.

The routines provided here can be included in any of your own programs to generate menus of a standard, easily managed format:

They consist of a title, border and several selectable items.

To make the routines as generally applicable and self-adjusting as

possible, the exact format of a menu and its contents are determined from DATA lines. The required format is:

- Menu title string
- Number of items in menu
- Border colour
- Title string colour
- Colour of currently selected item
- Colour of all other menu items
- X co-ordinate of border left
- X co-ordinate of border right
- Y co-ordinate of title bar
- The data item strings

PROCmenu is used to display a menu while PROCbar engages the selection process and returns a pointer to the chosen item. The options are automatically positioned inside the borders at the left margin, with those too lengthy to fit being truncated.

Regardless of the actual vertical location of the menu, the first option is always referred to as 1, the second as 2 and so forth. The number of the selected item is signalled by the global

variable Y%.

To use the menu system practically a route of action needs to be established for each option. This can be most simply implemented using a list of IF clauses. For example, an art package menu may use the following:

```
1270 IF Y%=1 PROCload
1280 IF Y%=2 PROCsave
1290 IF Y%=3 PROCview
1300 IF Y%=4 PROCprint
1310 IF Y%=5 PROCedit
```

It is feasible to incorporate options which lead to sub-menus – just provide the routines with the necessary data and write the post-selection action code. Should you decide to use these in your programs, make sure to incorporate RESTORE statements to redirect the DATA pointer suitably for each one.

Stephen Wade

Bar none



Example

```
ABCDEFGHIJKLMNO P Q
We are some
sample items
using the
bar-menu
routines.
Why don't
you use the
up and down
cursor keys
followed by
return to
select one
of us?
ABCDEFGHIJKLMNO P Q
```


Return to Repton: Repton 5 or Infinity revisited

The last Repton game on the BBC B and Master was Repton Infinity. Superior Software included not just a screen designer but a game designer in the package. I suppose the unwritten message was, *if you want more adventures you will have to write your own*. This means that new Repton games are possible and even completely new games based on puzzle solving and exploring can be developed.

On this month's subscription disk you will find a new set of screens designed around the Repton 3 game plan and a totally new game called Repton 5 – a caving adventure. The new screens for Repton 3 are in a file called REPTON3C, the Repton 5 screens are in a file called REPTON5A.

To play the new screens, the two files need to be in a disk directory called G and you need to load the original Repton Infinity game. When the game asks you to make sure that your datadisk is in drive 0 it is this

new disk you should put in.

The new Repton 3 screens have been written using the screen designer only, but are fully tested and have been successfully played to completion. The game involves a lot of new gameplay and aims to have a good series of puzzles, often with more than one way to succeed. With the exception of Repton himself and the dragon, all the rest of the sprites are new.

The objective is to plunder gemstones from a series of cave systems. As you explore you'll find bats, stalactites, spiders, dragons, coins, coffins, dragon eggs, crystal showers and lots of rock. Not all rock is as it seems, some contains gem ore, but you will need to find out how to release the gems inside.

The opening screen is in the tradition of King Arthur. Releasing the sword in the stone is easy, but what is it for? Your next problem is to deal with the spiders, and reach the chamber of skulls. Place the coin

in the mouth of the skull with the glowing eyes.

That should be enough clues to get you going, so I will finish with a few words to whet your appetite for the rest of the game...

What is the significance of the boulders with a frosty coating? What happens if a bat reaches a coffin? How do you get through the stalactite wall? If you play the game you will find out.

To help you a bit, screen 1 has a series of puzzles that can be tackled in the order you come across them. The map is switched off because on testing, the game proved more fun that way.

Screens 2, 3 and 4 are passworded, but screen 2 has the map available to make solving the puzzles more logical and less a matter of trial and error. You don't need the maps to solve screens 3 and 4 if you use the cursor keys to look around, and with the map off it improves the element of surprise.

J Green

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If there seems to be a fault with one of the programs please contact us at the magazine by post describing your machine set-up and exactly what happens when you run the problem program.

Mines: One step beyond

THERE have been many programs of this type but, as there was one for the Archimedes recently in *Acorn Computing*, here is one for the Beeb.

Usually the idea is to clear the minefield completely without the program going *Beep* or *Bang*. This one is slightly different in that the idea is to collect the flags and then leg it – actually it should be *tread very carefully* – to the finish in as little time as

possible.

You will of course have to isolate some of the mines to complete your objective, but there is no benefit to be gained by clearing the whole minefield, it just wastes time.

J Green

● Screen blowing



MtrAttk: Save the endangered spacecraft

WHILE performing a routine mission in deep space, the craft on which you serve – the USS Proton – has encountered an unforeseen meteor storm. The engineering officers were initially confident that the shields could withstand the battering. However, since the storm has intensified to an extent much greater than envisaged, the ships defences have begun to weaken.

Red alert status has been raised by the captain and a course laid in for the nearest planet – the third moon of the Hydroalphanagamma system. There is only way to escape the storm: Reach the planet and establish an orbit under the atmospheric layer which naturally burns up incoming meteors.

As senior laser torpedo operator, you have been allocated the task of blasting the incoming meteors before they cause further damage to the shields. Just five collisions from

any particular direction will cause shield failure and the destruction of the ship.

Much power has been drained to maintain the shields so far, meaning the usual simultaneous multi-directional fire is not practicable. Also, the automatic firing facility has not been restored since it was accidentally shorted out by a junior engineer – the ship is scheduled for a routine overhaul next week though.

Due to these facts you must manually control the weaponry, selecting which of the eight zones surrounding the craft is to be fired into. Your control display shows these numbered zones and the current strength of the shields in each – initially five units. When a meteor appears, simply press the number of the zone it is in to destroy it.

As the ship progresses towards the

planet the meteors will become speedier and more frequent: You'll need lightning fast reactions and a nerve of steel to prevail.

Remember, the survival of the craft and everyone aboard relies solely upon your efforts! But that shouldn't be a problem to someone of your combat reputation.

Pete Denshaw

● Destroying meteors





The ideA range

ICS was the first company to offer IDE products for Acorns back in 1990; now they are the standard choice for new Acorn computers. Building on three years' experience we have continually improved our IDE filing

system. It now offers the highest level of RISC OS compliance, and compatibility with at least 62 different hard discs tested by us. Can any other supplier make this claim?

Our IDEFS abolishes the RISC OS limit of 512 Mb, and offers extra features such as password protection, background operation, disc partitioning, and power saving (which allows some discs to stop spinning when idle).

Partitions can have different levels of protection. Family or pupils can access some of your files while you keep others safely out of their reach. Or you can simply protect the whole disc (reformatting is not required for this).

Our hard disc upgrade kits are based around two internal interfaces at present: A3IN for the A3000 Series, and ARCIN for the A300/A400/A500 Series. All kits are designed to a high standard and include all the parts you will need.

A3IN upgrade kits include an I²C expansion socket as standard. They come with a 2½" disc already attached, and are easy to fit once you have opened up your computer. You may safely take no notice of rumours still being spread that internal upgrades might not be safe in an A3000. We have adhered carefully to the guidelines in Acorn's technical specifications, and in three years have never come across a problem.

ARCIN upgrade kits provide a fast 16-bit link all the way from the computer to the hard disc. They can even be fitted to an A310 without a backplane – quite a cost saving. A second hard disc can easily be added later if required.

Interfaces and hard discs can also be bought separately. By shopping around you may even save a few pounds. But beware: not all IDE hard discs work with all interfaces, and if you have a problem it may be difficult to decide who should put it right. We recommend buying a complete kit from one source.

WIZZO is the name given to our IDE filing system when it is supplied as a single rom chip. Wizzo5 is for the A5000, and Wizzo4 is for the A4. You should buy a Wizzo if you need password protection or wish to use larger hard discs.

A Wizzo rom by itself will only produce a slight speed improvement. If you need speed in an A5000, fit an ARCIN interface instead. Up to 60% improvement can then be achieved, but this does depend which hard disc you use so do check with us first.

How to read our ideA product references

A number at the end is the nominal hard disc capacity in megabytes. We usually round this down, so the actual formatted capacity may be higher. All discs have auto-parking. Average access times vary but all are below 20 ms.

All prices shown exclude VAT and are subject to change without notice. The cost to us for hard discs can vary enormously from week to week – not always downwards! Your local dealer can obtain ideA products from us or from a distributor.

• PLEASE TELL US WHETHER YOU USE RISC OS 2 OR 3 •

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ARCIN 200	£270	ARCIN 420	£450
ARCIN 240	£290	ARCIN 540	£550
ARCIN 330	£359	ARCIN 1000	£875

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Package includes formatted hard disc mounted on ideA interface card, manual with fitting instructions. Fully internal, using internal expansion slot. Co-exists with floppy drive and memory upgrades. Fits the new 1992 computers. Easily fitted subject to Acorn warranty stipulations.

A3IN 60	£190	A3IN 120	£275
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*Only required if the computer has been fully upgraded, e.g. with maximum memory AND Econet AND an external podule.

► Separates for hard disc upgrades

We can only guarantee the performance of ideA interface cards with hard discs we have tested ourselves, so please check if in doubt. If you are buying a hard disc for an A5000 please say so. If you intend to fit the disc in addition to an existing one we need to know the make and model of the existing disc. Acorn's interface does not support all makes of disc, and some models will work as a second disc but not on their own.

Hard discs on their own are listed as, for example, HD200. An S at the end indicates a 2½" disc.

ARCIN (Archimedes Interface for Internal disc(s))	£60
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► WIZZO IDE Filing System on rom

Package includes rom, manual and fitting instructions. Compatible with RISC OS 3.0 and 3.1. Allows up to four logical partitions over two physical drives. Each partition appears separately on the icon bar and can have different password protection. Makes use of existing Acorn hardware for maximum compatibility, but works with a wider range of hard discs. Security breaches using ADFS can be prevented. Can be fitted easily by a competent user.

WIZZO5 for A5000	£39
WIZZO4 for A4	£39

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OS-ified

There's MS-DOS and DR-DOS, AmigaDOS and TOS on the Atari ST, there was BBC Micro MOS and, of course, there's RISC OS. But what are they and what's an OS?

Well OS stands for Operating System and every computer should have one. In fact without it the machine won't get very far, might as well use it as a doorstop, and with some machines a doorstop is all they're good for even if they do have an operating system.

A computer is just a piece of hardware, it's solid and it sits there, imposingly, without doing anything. What an operating system does is provide a layer of software that sits just above the hardware and allows control of it.

For example, a keyboard generates electronic signals when a key is pressed. These zip down the cable and alert the processor, which then stops whatever it's doing and finds a piece of software to execute that deals with the keypress.

This software will determine which key was pressed and puts the key code into a queue of key codes – which may be empty or contain other key codes which occurred earlier and haven't been dealt with yet. This queue is called a buffer.

Once that's done, the processor goes back to whatever it was doing before. At some later time, a program might ask the operating system to look in the key buffer to see if any keys have been pressed and to return the one at the head of the queue if there is one.

This is an example of an interrupt and associated interrupt software. It makes a computer work and these things are going on all the time with key presses, mouse movements and clicks, disk accessing, the internal clock ticking and so on. There is the constant interplay between the

hardware and the software.

So, without an operating system the machine won't operate. Clearly the speed of response to interrupts is an important consideration when designing a computer. They happen all the time and they need to be handled as fast as possible. The ARM chip is second to none in this respect.

And as far as RISC OS goes that's really the end of it. This is the *kernel*, the heart of the machine about 120k long. But what the kernel does have is the ability to link in further modules.

These add higher and higher levels of functionality: Podule deals with expansion cards, FileSwitch handles access to files on different types of storage media and so on. Each new module adds new services to the ones it depends on.

All major operating systems are designed with a modular approach, but none have the flexibility of the Acorn RISC OS method, which means I can take a module that's been around since RISC OS 2 and be 99.9 per cent sure it will work in a Risc PC.

Operating systems evolve with time, sometimes in big jumps or otherwise piecemeal. The disadvantage of the big jump is that all too often, earlier software won't work with the new version.

Apple had this problem when they developed System 7 for the Mac. The late appearance of it, about 18 months after it was originally scheduled, was due to the massive efforts made to ensure compatibility with software designed for System 6.

The Mac's operating system is modular in a similar way to RISC OS but, for technical reasons too long to explain here, it's much less flexible.

DOS products for PCs have developed similarly, which is why Digital Research are now up to DR-DOS 6 – Microsoft haven't quite got there yet with MS-DOS. But the

limitations of the PC memory system, imposed at the design stages of the very first PCs, meant that monolithic development stages were forced on developers.

You can't take a piece of operating system code from DOS 3 and expect it to work with DOS 6 – it won't, each piece has to be re-compiled for the new operating system.

Of course at the upper levels of the operating system even DOS tries to provide a standard interface for application software but it's hard for them.

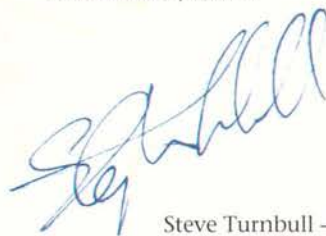
With RISC OS you can have piecemeal improvement by adding updated modules every now and then. For example, if there is a bug in the Font Manager of RISC OS 3 version 3.10 to do with kerning, you can simply add the replacement (preferably during hard disk boot up) and the system will work unaffected.

Then, every so often, a completely new set of roms can be issued, or one based in a new machine, and all the improvements made so far can be added.

It has been suggested that Acorn should make a new release of RISC OS 3.5 roms for the older machines. Well, most of the changes are actually to do with the new hardware so it isn't really necessary, but I do think it would be a good idea.

After all, there are plenty of people who would like a NewLook desktop without huge chunks of their ram getting eaten up.

How about it, Acorn?



Steve Turnbull – Editor



Steve Turnbull blows the dust off the operating system

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DIY utilities

Accessibility is one of the main features of the Acorn machines and using the inherent characteristics of the machines and Minerva's (0392 437756) ProCAD, it is easy to develop specialist applications and utilities based on a commercial product.

For example, one program is ProSpur which automatically creates spur gear symbols for use with ProCAD drawings. Gears are set by typing in the symbol name, diameter pitch, pressure angle, pitch circle diameter, bore diameter and boss diameter. Your gear will then be created saving hours of drawing.

Civil Engineers may be interested in a suite of four programs – Storm, Highway, Vertcur and Plotwise. These analyse storm water, road design and control plotting. In addition, Richard Fallas and Associates (0296 770555) have utilities for beam design and lateral load analysis of masonry, among others.

Video link

PROFESSIONAL video-graphics for the Risc PC is available courtesy of the APEX Imager Expansion Board and Millipede Electronic Graphics (0284 850594). When this board is added it transforms the Risc PC into a very powerful video-graphics workstation.

High quality live video signal can be input, output, stored and manipulated in real time, with images processed in 8bpp and 32bpp. A special feature is the real-time Alpha channel. This gives pixel-by-pixel blending control of hardware windows as they are moved smoothly around the screen. Anti-aliased objects – text for example – are correctly keyed with other images and can be combined with live video.

The target audience for this package is in professional video production including broadcast television. A number of software applications are planned already for the board including painting, animation, video captioning, video compression and presentation graphics.

Furthermore the APEX board is easy to program in high level languages such as Basic. Other video-graphics products are being developed for release later this year, but in the meantime the Imager board's costs will start at £3,300.

In the picture

THE Acorn User Show was in Harrogate again this year and the crowds flocked in to see – but not take away – the new Risc PC. The new Acorn machine has so far led to three PhotoShop look-a-likes which you can expect to see over the next few months.

As well as Spacetechn's PhotoDesk and Oregon's PhotoTouch, German-based Digital Arts have converted their popular Atari ST product Retouche to work on Acorn machines – now called DA Picture.

Other important developments came from Minerva (0392 437756) who are now an Ordnance Survey Licensed

Developer. They are working on a range of education products using this association, but in the meantime they have added the ability to import all forms of Ordnance Survey digital map into their ProCad package.

Full details of areas can now be imported from Ordnance Survey files, such as a relief wire frame drawing of a particular area which can be produced and next to it the details of all the roads, rail communications and so on.

Ordnance Survey digital map data can be obtained from the OS (0703 792773) but data is copyrighted so appropriate licences must be obtained.

Keith Chegwin visited the show and proved very popular with the crowds and the exhibitors...



● Captured on the Canon Ix camera – Cheggers and Wendy Richardson from CSH

International scene

FOLLOWING Acorn's good showing at the CeBit show in Hannover, Acorn have secured a deal with German department chain Karstadt to stock Acorn machines in their top seven stores, ousting Apple Mac machines from their shelves.

Slightly further away in South Africa,



Acorn have appointed Johannesburg-based Oak Tree Technologies as their sole distributor. Oak Tree will be recruiting new distribution outlets to cover all the major territories in the country.

Software specific to RISC OS will also be available and Oak Tree will source all third-party products and peripherals through Lindis International who are based in the UK.

Commenting on the deal signed at the Acorn User Show in Harrogate, Wayne Postma of Oak Tree said, "We will be providing a one-stop-shop for the growing Acorn community in South Africa."

Right to reply

THERE is a new service to readers starting in this issue of *Acorn Computing* – a Reader Reply Service administered by the magazine. The idea is to make it easier for you to get the full information on any or all programs featured in the advertising pages. The service is totally FREE, there is even a FREEST address for you to send your reply card to.

Full information can be accessed on page 90.

Educational resources

GABLE Design (0670 790177) is a new company providing resources for teachers. Their first release is Victorian Bygones. This is a set of clip art which comes on six disks and comprises over 80 images from Victorian engravings and pen and ink drawings.

These cover all aspects of life in the nineteenth century and the pack costs £19.99, though for a limited period the price will be £15.99.

Gable are also providing a school brochure and prospectus-setting service. The aim is to make a school's contact with parents extremely cost effective even for the smallest primary school.



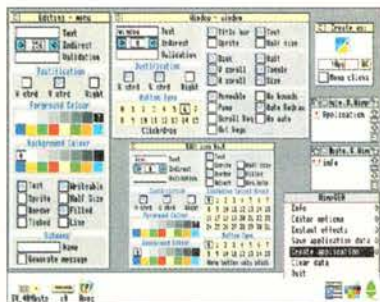
● Accessing Victoriana

Generating interface

TO ease the designing and implementing of WIMP-based programs comes WimpGEN from Silicon Vision (081-422 3556). The aim of the program is to let you create complex windows, dialogue boxes and menu structures while WimpGEN generates the main program shell – no manual stitching.

Similar in some respects to Acorn's FormEd template editor, you can also use FormEd resources in WimpGEN. Windows can also be snapshot from an active application and taken directly in WimpGEN.

Menu simulation is included so linked menu hierarchies can be seen and tested. The price of WimpGEN is £99 inc VAT.



● WimpGEN – aiding window design and creation

Falling stars

WITH printer prices becoming more competitive, Star Micronics (0494 471111) have dropped the prices of their dot-matrix, laser and colour thermal ranges by 25 per cent.

The lowest specification dot matrix, the LC-100, is now £149, with the LS-5 laser printer at £519 and their SJ-144 thermal printer now at £379.



Training acorns



Acorn have added six new courses to their training schedule: The New Acorn Explorer, Pocketbook, Multimedia Workshop, DTP Design, Music Workshop and Risc PC 600 Programmers' Seminar. These take place mainly in Cambridge, but there are centres in Winchester, Sandwell, Durham, Glasgow, Wolverhampton.

	Days	June	July	Aug	Sept
Cambridge					
Explorer	1	10	26		5
Pocketbook	1		14		9
Beginning Impression	1	8			19
Further Impression	1	9			20
Eureka	1		15		
Advance	1	21			8
ArtWorks	1	20			21
PipeDream4	1				22
DataPower	1				23
Squirrel	1	14			
Multimedia Workshop	2	23-24			29-30
DTP Design	2		6-7		26-27
Primary School Administration	1	3			
Technical Explorer	1	13	8		12
Programmers' Introduction to C	2	27-28			
RISC OS Application Programming	2	29-30			
Advanced RISC OS Programming	1		1		
Introduction to Acorn Networks	1		4		13
Network Management	1		5		14
Network Management Extra	1		6		15
Network Technical Workshop	1		7		16
Support and Servicing	2	15-16	11-12		6-7
Component Level Servicing	2		13-14		
Servicing BBC B and B+	2		18-19		
Servicing Master and Compact	2		20-21		
Winchester					
Acorn Explorer	1		18		8
Technical Explorer	1		19		9
Multimedia Workshop	2		20-21		
Sandwell					
Acorn Explorer	1	29	4		
Technical Explorer	1	30	5		
Multimedia Workshop	2				15-16
Durham					
Acorn Explorer	1	20			13
Technical Explorer	1	21			14
Multimedia Workshop	2		18-19		
Introduction to Acorn Networks	1		12		
Network Management	1		13		
Network Management Extra	1		14		
Glasgow					
Acorn Explorer	1	15			27
Technical Explorer	1	16			28
Multimedia Workshop	2				21-22
Wolverhampton					
Music Workshop	1	28			1

Course prices start at £79.90 and full details on courses can be obtained from The Training Administrator at Acorn. You can contact him on 0223 254386.

In a click

CRICK Computing (0604 713686) have a new application called Clicker aimed at all young readers and pupils with special educational needs. The special access version is for anyone with a physical disability requiring switch access to RISC OS applications.

At a simple level, Clicker acts as a multi-level on-screen overlay keyboard with speech output. It is used in a similar way to an overlay keyboard but takes the form of a window on the computer's screen.

This window or grid can be any size and can be located anywhere on the desktop. The cells which make up this grid can be from one to a hundred and can be of any size, using any font or colour. Cells can hold a letter or phrase and can also act as editing or function keys.

The price of Clicker is £35 for a standard version and £75 for the special access version – both include a site licence for up to five machines.

Mobile text

ACORN have teamed up with TJ Reproductions to produce a new magazine Land Mobile. This is a trade magazine for the mobile communications industry and is using the Acorn Publishing System for pre-press production.

Editor Richard Lambley, who has worked in publishing for over 10 years on Acorn, Mac and PC systems stated: "I find Macs and PCs frustrating because they are not very flexible and lock you out when you hit a problem."

Land Mobile is produced on a combination of Acorn A400 series machines with 8Mb of ram and a portable A4 with a 200Mb hard disk. Templates of the page design were set up in Impression and Artworks and articles from freelancers are input via modem or PC disk into Impression.

TJ Reproduction is run by Tony Tolver. "I use the Acorn about 90 per cent of the time. It is fast and easy to use, and I found I got a lot more problems with picture and font compatibility on the Mac."

A wealth of resources

CD-ROMS are an ideal medium for storing resources and NW Semerc (061-627 4469) have compiled a disk aimed at Key Stage 1-3 pupils in partnership with NCET and Cumana, using DFE Partnership Funding under the 1993 CD-Rom Applications Development Scheme.

The Semerc Treasure Chest consists of a range of pictures, symbols, sound samples and speech files. All the resources are easily accessed and extracted.

There are over 2,500 pictures which are grouped by subject, each with its own text and sound file, and have been produced with the curriculum in mind.

Subjects covered include food, history,

the natural world, people, places and vehicles.

In addition the disk is a resource for language containing the first 100 words children are most likely to learn in French, German, Spanish and Welsh, together with the appropriate picture and speech.

For atmosphere there are 200 sound effects of bird song, police sirens and so on. The cost is £69.



Board access

WITH the term *super-highways* rapidly becoming the buzz word of 1994, you may feel the need to set up your own *node*. Enter Archiboard from Keith Marlow (0603 745077).

This advanced bulletin board software provides a usable site-wide electronic mail and conferencing system, with the possibility of affordable international Email access and a self-indexing central information database for files with complete control.

Archiboard comes in two forms, with the Basic version not having network support and costing £50. If you require networking for inter-site projects the Network version is priced at £75.

Riscy PC CDs

CUMANA (0483 503121) – who are sponsoring the National Educational Multimedia Awards this year – have released the news of a new internal CD-Rom drive kit for the Risc PC.

Called the 300i, the package contains a high performance Panasonic CD-Rom drive as used in Cumana's 300 and 300a series and a small interface board which plugs directly into the IDE interface on the motherboard, slotting nearly into the 5.25in bay.

The 300i has a motorised loading tray, is multi-session PhotoCD capable and comes complete with Acorn's PhotoView application. Operating in double-speed mode it gives an access time of 320 milliseconds and has a 64k buffer and a data burst rate of 1Mb+. It also lets you play audio CDs too. The price – £249.



PC upgraded

NOW shipping are Aleph One's new and faster range of PC expansion cards for the Acorn RISC machines. The new top-of-the-range card has a clock-doubled 486 processor, and networking options make it possible to connect PC cards to a wide range of PC LANs including Windows for Workgroups, Novell Netware and LAN Manager. You can also upgrade your current card, for example:

Current	Upgrade	Cost
25MHz 386	486-25 4Mb ram	£535
25MHz 386	486-50 4Mb ram	£612

Cards can be supplied bare of ram if you prefer and networking software costs £25, as does an additional serial port.

On the Risc PC front, Aleph One and Future Technology Devices International in Glasgow are building a PC second processor card to fit in the second processor expansion slot. In conjunction with the ARM processor you can have improved performance for graphics-intensive environments such as Microsoft Windows.

Aleph One will provide the software, and FTDI a specially-designed chip to connect the PC processor with the Risc PC. Due for release in October, Acorn will market the entry-level variants with Aleph One selling the high-end configurations.

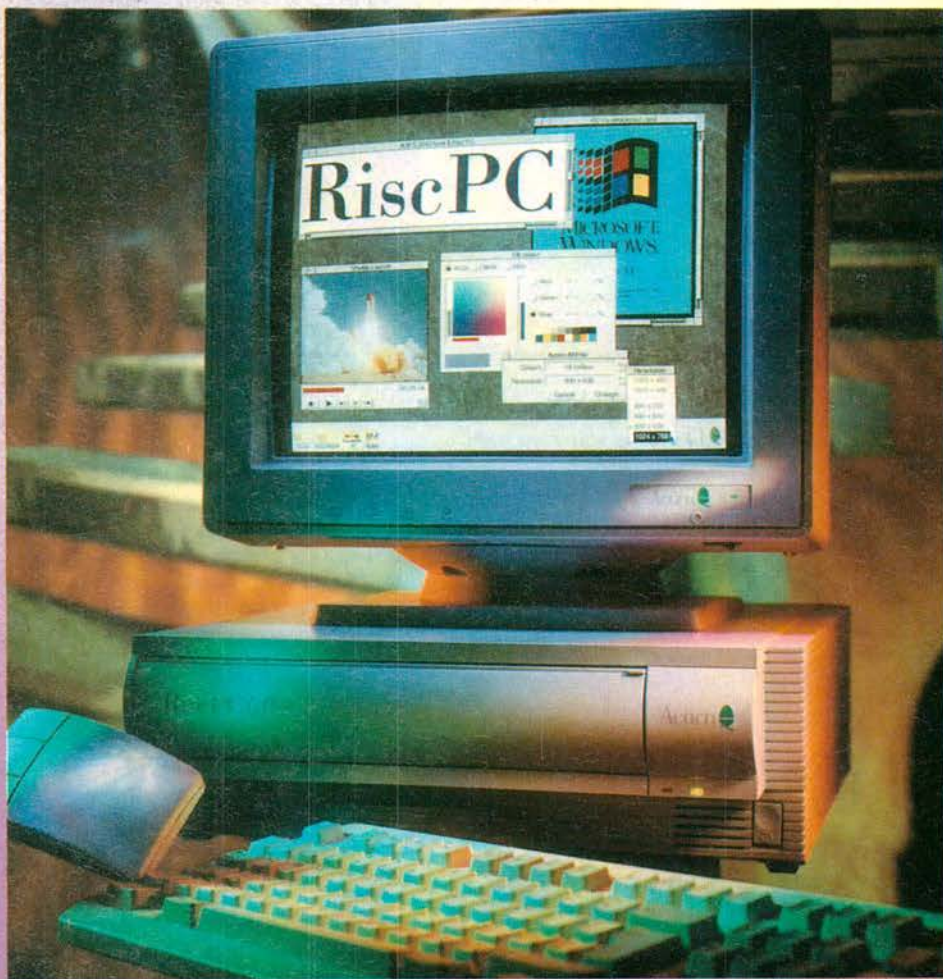
Expressive numbers

ESP – designers of the SuperSound Expansion System 1600 – have evolved into two companies. Expressive Software Projects can be contacted on 0602 295019 and are involved with the software development while ESP Hardware (0706 868803) are the ones to contact for the hardware sales and support, including the SuperSound Expansion System.

Upgrade to a RISC PC *with* BEEBUG

Acorn's
Largest
Dedicated
Dealer

The Risc PC offers significant advantages over the rest of the Acorn range. BEEBUG are making some exciting offers as well as giving you the opportunity to trade in your existing Acorn computer for a Risc PC.



SUPPORT from BEEBUG

- We will copy your existing data from your hard drive to the new machine.
- Tell us what software and versions you are using and we will provide advice and help on upgrading where necessary.

TRADE-IN through BEEBUG

- Call us with details of your current system and we will tell you how much allowance can be made for trade-in.
- We will take your existing system back for up to 3 months after purchase of a new Risc PC to give you a chance to get used to the new computer.

PRICES

All systems include 30MHz ARM 610 processor, 1.6Mb 3.5" floppy disc, 12 months on-site support, and 14" SVGA Multiscan monitor.

Code 3001g PC 600 2/210Mb	£1249
Code 3006g PC 600 5/210Mb	£1399
Code 3011g PC 600 9/420Mb	£1699
For 17" SVGA multiscan monitor add £400.	

Features

- Six times faster picture manipulation than a 66MHz 486DX2
- Low cost processor upgrade strategy, allows upgrade to ARM 700 & 800
- Low cost access to PC DOS and Windows
- Lightening fast manipulation of still and moving images
- New 1600 x 1200 resolution display with 16 million colours
- Full multimedia capability and PhotoCD capability
- Expandable RAM up to 256Mb, plus up to 2Mb video memory

UPGRADES

1Mb VRAM	£129
2Mb VRAM	£199
210Mb HD	£199
420Mb HD	£299
Case for extra slice	£99
PC Card	£99
All fitted prior to despatch if required.	

CALL FOR A FREE COLOUR BROCHURE ON THE RISC PC OR SEND A 12 x 7 SAE FOR A FREE COPY OF RISC USER'S IN DEPTH REVIEW.

SPECIAL LAUNCH OFFERS

Either- SOFTWARE OFFER
Choose absolutely FREE any FOUR of the following items when you buy your new Risc PC.

- Artisan 2 Worth £250
- Ovation DTP Worth £99
- Pipedream 3 Worth £71
- Schema Worth £114
- Chess Worth £5
- 10 HD (2Mb) blank discs. Worth £12

PLUS All BEEBUG Risc PC computers have a Discount Voucher for the purchase of Clares new ProArt 24 painting package.

**or-
Order a
PC Card when
you purchase
for just £25**

BEEBUG Ltd
117 Hatfield Road, St Albans, Herts, AL1 4JS
Tel: 0727 840303 Fax: 0727 860263 Telesales Hotline 0727 840305

BEEBUG

UK carrier delivery £8. Prices do not include VAT

Musical muse

A NEW music sequencer has been introduced to the Acorn market by Mycroft Software. The HQTracker provides a suite of applications that function entirely in the desktop, allowing the creating of soundtrack using digital samples.

Added to this is an intuitive interface, information on how to incorporate the software into your own programs and instrument libraries of over 200 instruments.

The price is £25 and full details can be obtained from Mycroft Software, 53 Cottonmill Lane, St Albans, Herts AL1 2ER.

Serving RISC

GNOME Computers (0480 406164) have developed X X Windows server software for the Risc PC to give a truly professional X terminal solution, connecting the Risc PC to a network of workstations running the X Window System.

The server has graphic support for resolution up to 1280 x 1024 x 256 colours and 24-bit true colour. You can also have up to eight independent X screens of different colour depths.

Security is guaranteed by DES encrypted authentication, though you can use other – but less secure – X Window System methods.

You can switch between the X server and RISC OS desktop via a hot key, and work in the desktop while the X server continues to maintain its clients.

Alors!

LEARNING foreign languages works best with speech rather than text alone. CD-Roms allow you to store facilities to let you explore this medium to the full. Enter Oak Solutions (0532 326992) with their CD Français.

This contains over 50 interactive activities based on the popular Tricolore course, though they have been designed to support any French course. The project was funded by NCET and was compiled using a team of advisory teachers based at the EdIT Centre in Leeds.

The cost of the CD is £95 and all the instructions are given in the target language and can be played repeatedly for reinforcement. The activities can be used in groups or individually at the pupils' own pace without a teacher.

One to the power of six

COMPUTER Concepts (0442 63933) have added a second CD-Rom drive to their catalogue. The Pioneer DRM602X is a double-speed six disk drive. With a 300k per second transfer rate it has a six-disk magazine with auto-changer making it ideal for network users.

The DRM-602X is a multi-session PhotoCD drive which can play audio disks with output to headphones and RCA connectors. The magazine can also be locked into the drive for security.

The price is £499 and is suitable for any RISC OS machine with a SCSI

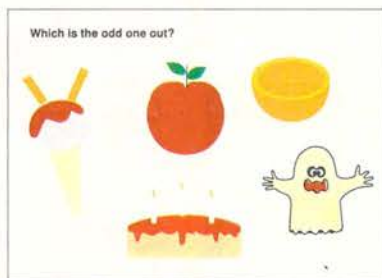
interface running the new CDFS 2.2. The package includes the driver, Computer Concepts drivers, audio and power cables, Dos/Windows and Apple Mac drivers, as well as a free copy of Computer Concepts' ArtWorks Clipart CD.



Added colour

COLOURFUN is a new resource pack from Smart DTP (0332 842803). A collection of pictures for young children, they are all in Draw format and come in two forms, an outline and coloured version. ColourFun costs £14.95.

Smart DTP also have an enormous selection of other clip-art resources from box frames to symbols.



Better SCSI

A NEW high performance 32-bit SCSI card for the Risc PC is due for release this month from Cumana (0483 503121). The card is called the SCSI II and will let Risc PCs communicate at maximum speed with SCSI peripherals and will also be compatible with all Archimedes machines with expansion card slots.

The card also comes with an enhanced version of the WIMP-based SCSI Manager software for interface configuration. It is compatible with Cumana's current range of SCSI peripherals and the use of flash eeprom makes future upgrading of the software very simple.

Star of stage and screen

WILD Vision (091-519 1455) have a new friend on their range of multimedia products. TV Buddy works by connecting a standard UHF TV signal to the aerial-style connector on the back of the Buddy card.

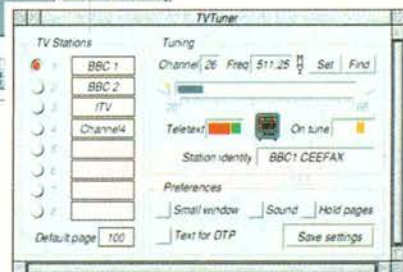
You then have access to a TV picture in composite video, an audio signal and access to decoded teletext. The composite signal is suitable for using video digitisers while the audio signal can be used for audio sampling using cards like the Eagle MS or Lark A16.

The package is the result of a collaboration between Design IT and Wild Vision, and gives you control of tuning with TVTuner and TVControl applications on the desktop, while TeleCFax accesses and prints the teletext information you want – it also handles foreign teletext services in German, French, Italian, Czech, Swedish and Spanish.

To display the TV picture you'll need a composite video-compatible monitor or a suitable video digitiser. As TV Buddy fits well with the rest of the Wild Vision range, there are headers on the TV

Buddy to link directly to the Eagle expansion card inside the computer case – so no external cabling.

The cost of TV Buddy (Tuner and Teletext) is £159, though you can buy the TV Buddy (Tuner) for £89.





What do you need



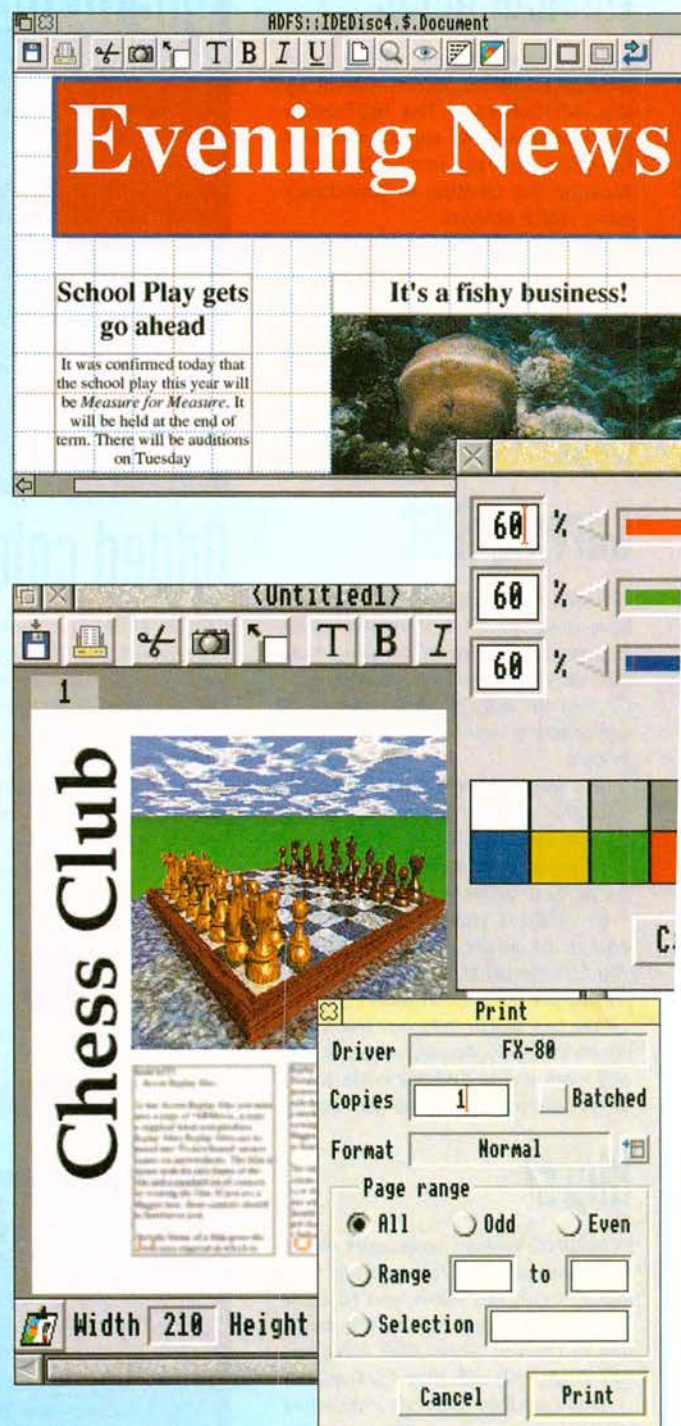
Illustrations

- ▶ Supports the graphics capabilities of Acorn's new range of computers;
 - ▶ Graphic backgrounds in frames;
 - ▶ Scanned images
 - ▶ Sprites
 - ▶ Drawfiles
- ... can all be added by drag-and-drop.



Text Styles

- ▶ Multiple columns;
- ▶ Headlines;
- ▶ Captions;
- ▶ Text borders;
- ▶ Text can flow around, within or on top of your illustrations;
- ▶ Pre-defined styles built in;
- ▶ Easily definable type styles;
- ▶ Imports PenDown documents.

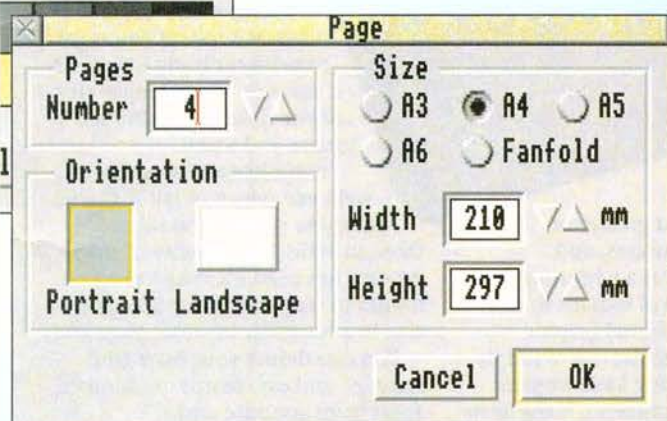
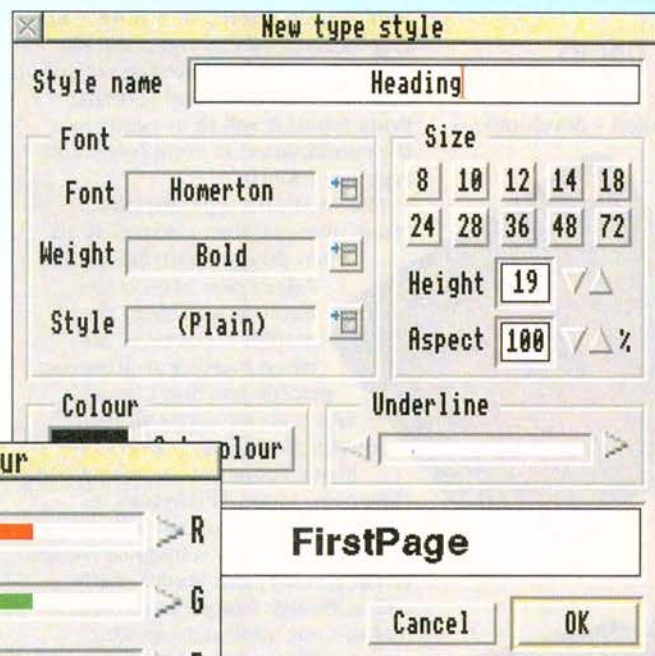


First Page prices: £49 for a single user copy, £140 for a Primary School site licence and £190 for a Secondary School site licence. For more information about **First Page**, please contact:

**first
PAGE**

Longman Logotron, 124 Cambridge Science Park, Milton Road,
Cambridge CB4 4ZS. Tel. (0223) 425558; Fax (0223) 425349

from a DTP Package?



Versatility

► Ideal for:

- Newspapers
- Newsletters
- Greetings cards
- Advertisements
- Posters
- Booklets
- Letterheads
- Menus

... and any document with text and graphics.



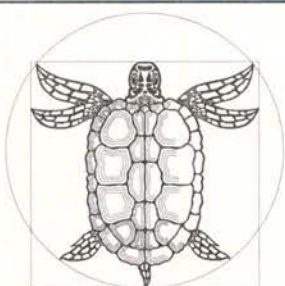
Editing

- Smart links with Draw and Paint;
- Easy saving routines;
- Multiple view options.



Easy to Learn, Easy to Use

- Straightforward, accessible tools;
- Create a wide range of document types with the minimum of effort;
- Professional-looking documents, even for beginners!



LONGMAN
LOGOTRON

The first choice

first
PAGE

ONCE in a while it's good for the soul to admit you're wrong. Now it's my turn, because when I first saw a draft specification for Impression Publisher, I wasn't exactly bowled over by the proposed new features – it didn't seem to be all that much of an advance on Impression II.

But then I saw Style, Computer Concepts' junior edition of Publisher, and realized that if the difference between Style and Publisher was as great as it had been between Junior and

same at first sight. The differences are evidently more than skin deep – and in fact the implications are very exciting for Acorn machines.

Frames and pages

Perhaps the most significant – and most eagerly awaited – development is the introduction of irregular frames for graphics. You'll have

handles – they can be dragged anywhere that doesn't cross another part of the frame.

You can also add points to the frame outline so that it follows your graphic as closely as you need. No matter how many times the outline turns back on itself, any text that flows round it will fit as neatly as the combination of complexity and type size allows.

The ArtWorks-type graphics tools give you the usual functions when dragged with Select, but

Adjust now acts on the frame as well as on the graphic it contains. So when rotating an irregular graphic you don't have to worry about losing all your careful shape-fitting work.

Frame borders can now be given their own colour. This applies to fancy imported borders as well as to the standard set. Even irregular frames can be given a plain border of any colour, though I suspect this could lead to some unpleasant-looking pages if not used with care.

Interestingly there is a new standard border, 11, that provides simple crop marks for a frame.

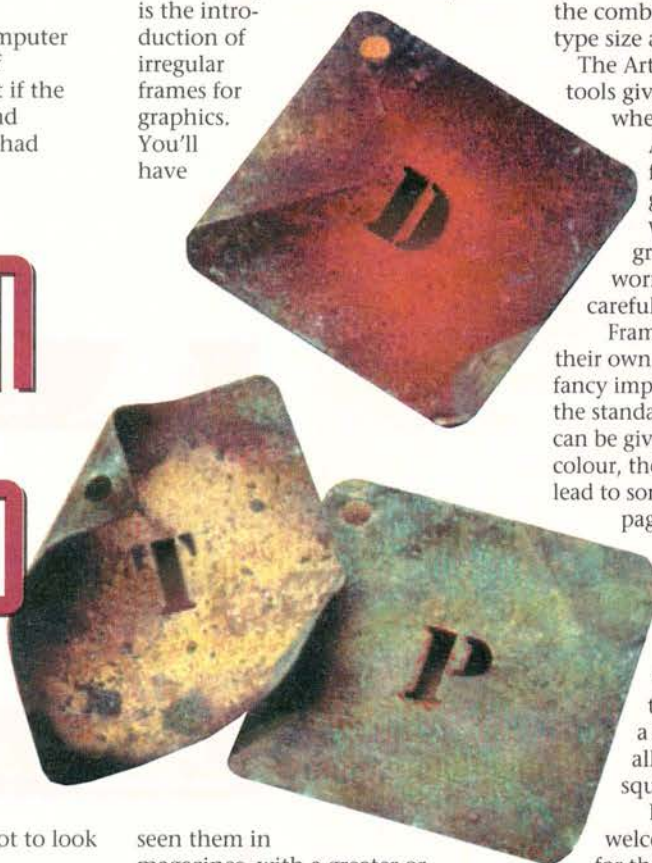
This would be useful, for instance, where you want to print multiple tickets on a sheet of A4 and make sure all the tickets are trimmed square and equal.

Publisher also sees the welcome return of guide frames for those of you who missed them in Style. The number of snap options has been increased to allow frames to snap to these guides and also to a normally invisible page grid.

You can define your own grid settings, and one major use for this, apart from accurate and reproducible positioning of frames, is to ensure that text in multiple columns aligns across the page,

More than skin deep

Bruce Goatly gets professional with DTP



Impression II, there was a lot to look forward to.

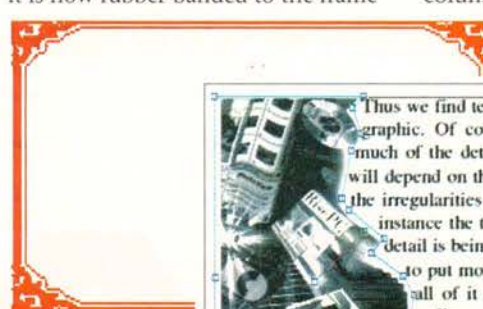
Not only did Style's new user interface, including the toolbar, make it much easier to use, but the other features already went beyond Impression's – so much so that I shan't repeat here anything I covered in my Style review in February's issue of *Acorn Computing*.

Whereas Computer Concepts are deliberately marketing Style as a word processor, which is perfectly justified if a little understated, Publisher is being aimed at an area that Acorn is keen to get into: The small professional

publishing world. So how does Publisher fit into that picture?

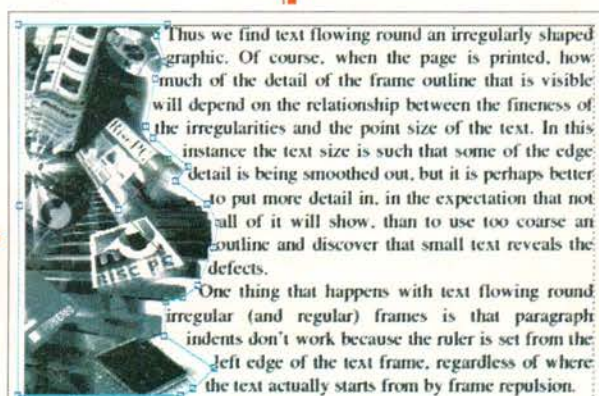
To be honest, there doesn't seem to be a lot of difference between Style and Publisher superficially, apart from the need for a dongle. The document window looks very similar, and even the menus look much the

seen them in magazines, with a greater or lesser degree of success, and although there was a workaround in Impression II it was tedious to do. Converting a normal graphic frame into an irregular one is simply a matter of choosing *Make irregular* from the Frame submenu. If the *Show irregular* item is ticked the frame outline will turn blue, meaning that it is now rubber-banded to the frame



● Colour your border

● At last, irregular frames for graphics



PRODUCT SPOTLIGHT

Product: Impression Publisher
Price: £169
Supplier: Computer Concepts,
Gaddesden Place, Hemel Hempstead,
Herts. HP2 6EX
Tel: 0442 63933
Requirements: 2Mb ram

● Uneven columns of text...

Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque habitant Morbi tristique Senectus et Metus et malesuada Fames ac turpis Egestas. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque habitant Morbi tristique Senectus et Metus et malesuada Fames ac turpis Egestas.

Main heading

Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque habitant Morbi tristique Senectus et Metus et malesuada Fames ac turpis Egestas.

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Main heading

Faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque habitant Morbi tristique Senectus et Metus et malesuada Fames ac turpis Egestas. Vestibulum ante ipsum primis in.

● ...and the difference a page grid makes

Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque habitant Morbi tristique Senectus et Metus et malesuada Fames ac turpis Egestas. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque habitant Morbi tristique Senectus et Metus et malesuada Fames ac turpis Egestas.

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malesuada Fames ac turpis Egestas. ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque habitant Morbi tristique Senectus et Metus et malesuada Fames ac turpis Egestas.

Main heading

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Main heading

Faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque habitant Morbi tristique Senectus et Metus et

483

regardless of the various type sizes used. This is a device that calls for some planning before use.

Another novelty is the ability to clone one or more frames and their contents across or down the page at regular intervals, which can be handy for creating grids and forms or crossword puzzles. The contents of the frames are also duplicated, though I still have to think of a use for this.

Text features

It's confession time again. Before looking at Publisher's new text functions, let me pick up on something I omitted in my review of Style – the *Keep together* options. These let you apply, either as an effect or as part of a style, an instruction to prevent pieces of text from being split up at the end of a page.

This is an important and useful improvement on Impression II, because now you have complete control over whether a paragraph can be broken over a page, or by setting *Keep with next* as part of a heading style you can ensure that the heading is never left stranded at the bottom of a page or column.

Tracking, which is like kerning but applied uniformly to sections of text, was introduced in Style as an effect. Publisher now has it as part of the style definition, so you can use it to add a bit of traditional class to headings in capitals or – as in certain parts of Europe – instead of

italics for emphasis.

A common use for tracking, incidentally, is to force lines to fit into narrow measures, either by squeezing the letters together or by moving them apart to camouflage the fact that the spaces between words are too big. Personally I dislike either, but you can use this option if you have to.

Carrying on with how Publisher treats straight text, a completely new feature is the ability to define a style that auto-indents the ruler to the first tab of the old one. This could be useful in long lists, for example, but less so for some office documents, because applying the style twice removes it – the usual toggle effect – rather than applying it a second time for further indentation.

Some attention has also been given to a long-standing pet niggle of mine, namely that even in Draw I've always been able to control the position and thickness of underlining, which in its standard form cuts through the descenders of characters such as *g* and *y*. Publisher now lets you do this as an extra style option alongside single or double underlining.

For those who feel, as I do, that the standard subscripts or superscripts are a bit large, you can now also fine-tune their position and size. The size is specified as a percentage of the normal sub or superscript size, and the position as a percentage offset from the normal baseline of the sub or superscript. More to the point, it means you can

define accurate second and third-order scripts for mathematical work.

On those few occasions when I've needed to incorporate style descriptions from one Impression document into another, I've been dismayed at the outcome when style names collided. Being faced with enormous lists of renamed styles and trying to work out which to keep and which to delete isn't funny.

Publisher addresses this by offering you the choice of discarding or renaming the imported styles automatically, or using them to replace the styles of the same name in your document. If you've never merged styles this may seem trivial, but if you have you'll welcome it.

Inveterate users of multitudinous fonts will be delighted with the last text feature which creates a list of all the fonts used in the current document. If nothing else, it could be a useful disciplinary instrument in training courses.

Before moving on to weightier matters, I'd like to mention an entertaining by-product of the new Object Linking and Embedding facility introduced in Style. It's somewhat outside the publishing norm, in that you can embed non-print items to make quasi-multimedia documents.

For example, the tutorial files include a cartoon sheep sprite and a sampled bleat. Just drop the sprite into a frame, make a new transparent frame the same size over it, drop the AudioWorks sample

● Paragraph control in the style editor – note the *Keep together* options

Paragraph

Layout

☒ Space above paragraph 0pt

☒ Space below paragraph 0pt

☒ Ruler ☒ Auto indent ☒ Off ☐ On

☒ Alignment    

☒ Line spacing 120 ☒ %

☒ Lock to page grid ☒ Off ☐ On

Keep together

☒ Keep together 0pt

☒ Keep single paragraph ☒ Off ☐ On

☒ Keep multiple paragraphs ☒ Off ☐ On

☒ Keep with next paragraph ☒ Off ☐ On

Close



into it, use the Pan tool to move the AudioWorks icon out of view, and Hey presto! One semi-multimedia file – just Control+double-click on the sheep to hear it.

In principle you can even embed Replay files in your documents, though your machine's memory imposes a practical limit.

Advanced features

If the improvements I've described so far sound fairly trivial, with the exception of irregular frames, then don't worry, the good stuff is coming. The major advances are in the graphical support and output areas, putting Impression Publisher virtually on a par with fully professional DTP and page preparation programs for other

machines, and rendering the Impression Business Supplement effectively obsolete.

On the graphics front, extensive control is now available over the appearance of included graphics. The *Alter graphic* dialogue has two extra buttons, *Colour map* and *Typesetting*.

The colour mapping editor is a phenomenally powerful tool giving you access to the colour or greyscale balance of any graphic object. Altering the brightness or contrast of individual colour elements separately from any of the others is easy to achieve – though really very difficult to control if you don't understand what you're doing. It quickly gets very technical.

For example, with sufficient skill

you can remove a colour cast from a photograph – or add one – or you can bleach out highlights, make a sunny day look rather overcast or simply make a picture pale grey so you can print text over it. More importantly you can make subtle adjustments that may be needed by later printing processes, such as colour-correcting PhotoCD images.

With a supplementary colour picker you can also turn a colour original into a greyscale by defining the lower and upper colours as white and black respectively, or you can create interesting false-colour effects from greyscale or colour originals. Alternatively, you can use it to create areas of spot colour, which are areas on a page printed in a single non-black colour.

Bear in mind that the original, as stored in the document, is unaffected by any of these changes – Publisher is merely manipulating the image before you see it. So if things really get out of control, and for some reason you've lost the original file, you can always retrieve an unmolested version simply by saving the graphic.

Turning to the control of graphics typesetting, there is a facility to change the PostScript screen for any of your graphics independently of

the settings for the document as a whole. The only thing you can't change here is the resolution of the output device, which makes sense.

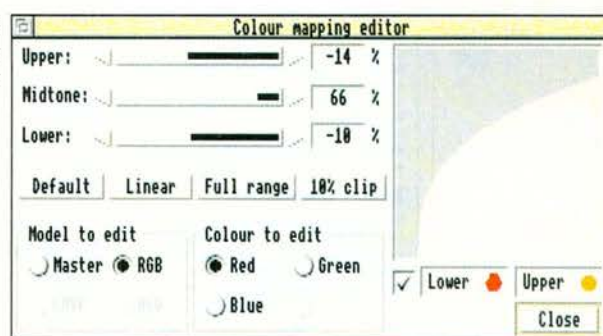
In professional work it's usual to print a multi-page work on one sheet which is then folded and trimmed to size. Style is able to add crop marks, telling the printer the final size of each page, but has no way of allowing graphics to extend over the edge of the page, or *bleed*.

In professional work this is often necessary, so Publisher permits this by letting you specify, as part of the master page information, an extra margin around the page. Your chosen output device must of course be able to print the full area of any oversized pages.

Support is now provided for the origination – the preparation of complete print-ready artwork – of full-colour work, in several ways. The ability to make colour separations was an obvious essential, and the relevant print dialogue lets you add the names of the separations to each and also to include registration marks so the printer can make sure the colours align correctly.

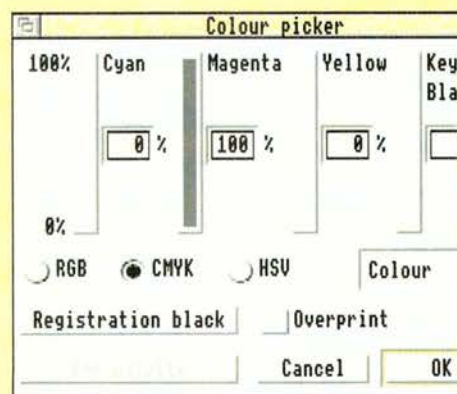
If I were doing colour work routinely I expect I'd have them turned on permanently, but maybe there's a reason that they aren't in

● Publisher's colour mapping dialogue

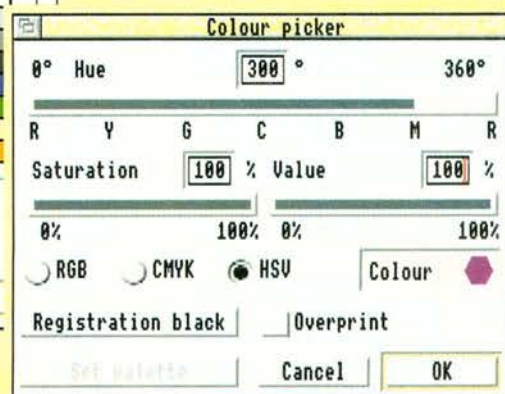
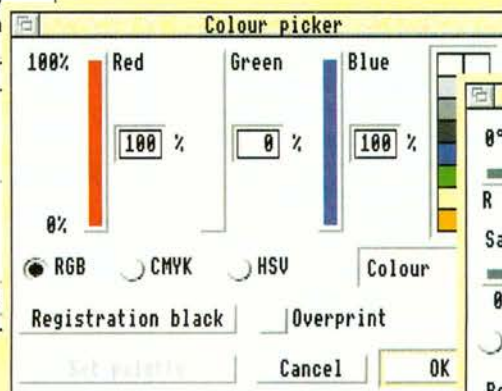


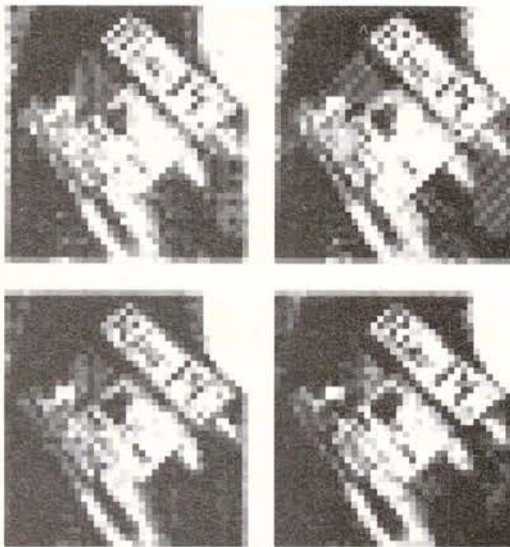
normal underline: gjy
shifted underline: gjy
thicker underline: gjy

● How underlines can now avoid descenders



● Three ways of choosing the same colour





● Examples of PostScript screens, enlarged

pixel images can be rendered on screen and Publisher's CMYK separations can also specify colour to this accuracy. I've no way of checking this yet, but doubtless someone will before long.

Pros, semipros and cons

So how does Publisher measure up in the

the default document.

Before printing out your CMYK colour separations you'll probably want to check them on screen – this you can now do. Just choose the colour of the separation you want to see and the document will be shown in black and greys corresponding to the density of ink in that colour.

Two last controls in the various colour pickers are the ability to set items to *Registration black*, which forces all the CMYK colours to 100 per cent. The registration marks outside the trimmed area are automatically set to this so that alignment can be checked, but you may want to do it within the page.

The last control, *Overprint*, is intended to avoid the possibility of small white areas appearing where an item in one colour fits exactly into a gap in a background item of a different colour. It does it by ensuring that the background doesn't have a hole in it and the foreground object then prints on top.

This is all right where the foreground object is black, but it doesn't solve the case where you want to print, say, yellow text over a black background – the black would completely obliterate the yellow.

The traditional, photographic way to do this would be to blur the image of the yellow separation enough to cause it to spread slightly. After printing, the excess yellow around the edge wouldn't show, being on top of black. This may be unreasonable, but are there any takers on that one?

Computer Concepts claim that, to take full advantage of the new Acorn Risc PC machine, 32 bit-per-

professional page preparation stakes? There's no doubt that it is an enormous advance on Impression, and nothing else comes near it on Acorn machines. It may therefore sound churlish to say that Computer Concepts has *almost* got it right, but even the best can be improved.

On the feel of the software, the screen update, even on my primitive 25MHz A5000, is fast with regards to flow around irregular frames, even though some corners have had to be cut – at least in the version I was using.

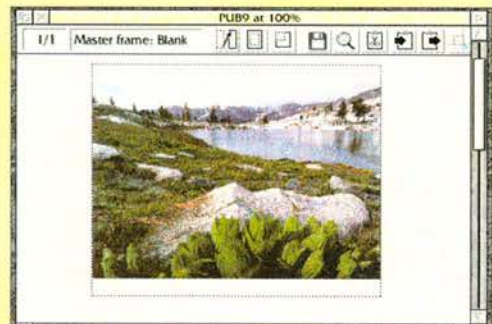
I still miss Shift+left or right cursor keys to move the cursor word by word, though I know that others prefer it the new way. Perhaps this could be offered as a preference?

Drag and Drop editing still only works within a document, and won't allow transfer between documents or between applications. And a minor niggle is that there is no provision for counting words in a selected region.

It seems curious, to say the least, that the *Find and replace* capabilities in both Style and Publisher are – as in Impression before them – far less powerful than Edit's, with only restricted support for wildcards.

On the professional front, one omission that needs seeing to is a set of up-to-date filters for files from alien software such as Word Perfect. Like it or not, they're common word processors and any product that can't handle them will be deemed non-professional.

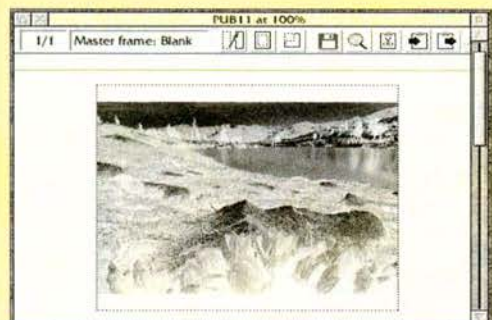
Under things to look forward to, watch out for the promised Open Prepress Interface, which will allow the inclusion of high-resolution



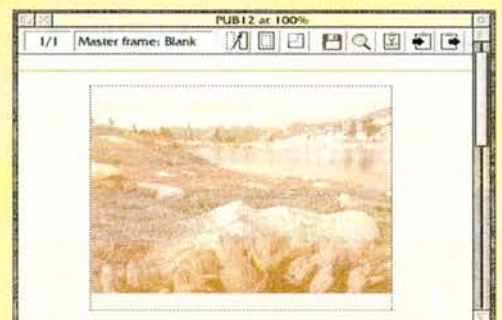
● Using the colour mapping control to turn a picture...



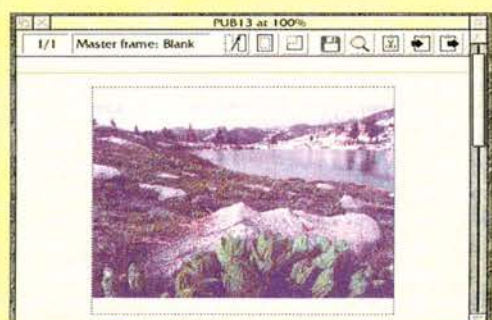
● ...into greys...



● ...or a greyscale negative...



● ...or into sepia-like tones...



● ...or a shot from someone's Blue Period



full-colour illustrations into documents for professional imagesetting, without the need to include enormous files on disk or in memory.

OPI will also incorporate the ability to load Encapsulated PostScript (EPS) files, which are another standard in the transfer of page and graphic information.

Finally, a word about backwards compatibility with Style. Rather unexpectedly, it's possible to load a document with text flowing round an irregular frame, and provided the framed-off graphic is transparent and the frame is set to transparent in Publisher, it won't obscure any text and the document will print correctly. However, as soon as you edit the text you will find that Style not surprisingly treats the frame as rectangular.

On the other hand, none of the typesetting options work on printing, even if they've been set up in Publisher before saving. That would of course defeat the object of the Style-Publisher dichotomy, which is more substantial than the Impression-Junior distinction.

Summing Up

This excellent package certainly shouldn't be valued just on its price tag, and remember that, as with Style, it comes with a host of other goodies like WordWorks, Equasor, TableMate and hypertext-type help.

It has been put together in a well thought-out way, building sensibly on the strengths of its forbears and making it easy to achieve a desired effect – even without the manual, thanks to the help facilities.

Publisher greatly extends the finishing capabilities of Impression, as it contains a wide set of features controlling how the printed version will appear. Many of these will be mainly of interest to people needing to output to high-end professional devices, such as filmsetters, but as prices of high-quality PostScript laser printers carry on falling, more and more people will have easy access to decent output.

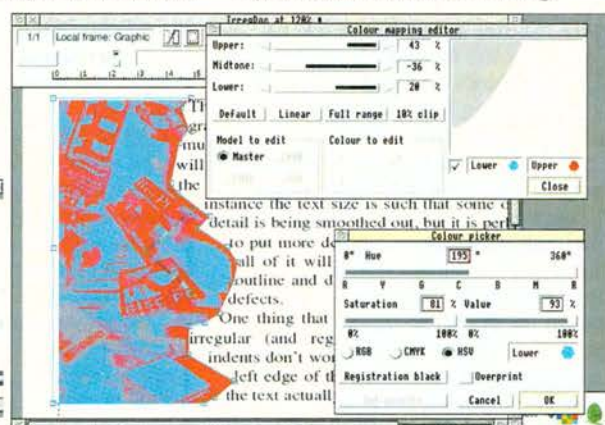
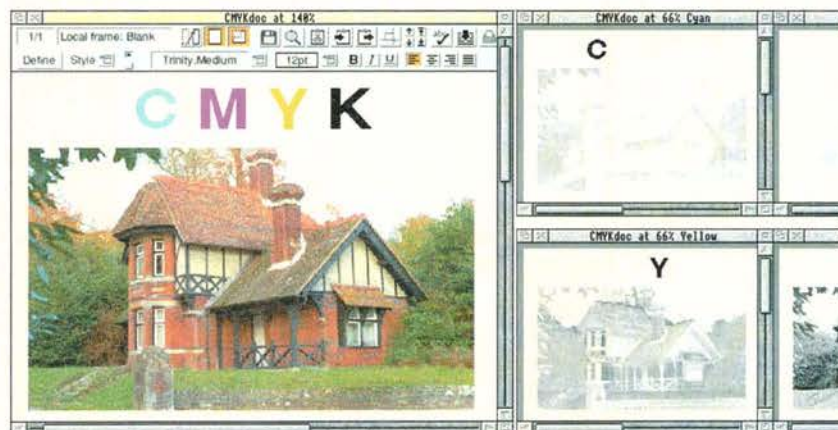
Even if you think you'll only ever use a fraction of the features, think about going the whole hog. You never know when you might want just that bit more.

Of course, with such an easy and generous upgrade route from Style, anyone can afford it, which in a way is a bit worrying.

Why? Because Publisher brings (semi) professional origination within the reach of anyone with a 2Mb 32-bit Acorn machine and a £170 piece of software. If you've worked your way up from Impression Junior through Impression II, you're more likely to have acquired a command of the basics of good DTP, but a powerful application is no substitute for applied skills.

The way the world is going, more and more people are going to want to get in on the professional publishing act, and the dangers of ignorance are more than just unaesthetic, they are potentially very expensive.

Professional is in the head, not the computer. So proper training in understanding the principles before using the software is going to be increasingly vital. I hope someone out there is listening.



instance the text size is such that some detail is being smoothed out, but it is perfect to put more detail of it will outline and defects. One thing that irregular (and regular) elements don't work left edge of the text actually

- Giving false colours to a greyscale original
- Using Publisher to view colour separations on screen

RGB, HSV, CMYK?

Colour as the eye sees it is a tremendously complex matter, and how you define the components of a colour so it can be reproduced accurately depends on what you plan to do with it. There are three standard systems of doing this, called RGB, HSV and CMYK.

RGB you are probably already familiar with, from the idea of the three colour guns inside your monitor. It specifies the intensities of Red, Green and Blue light to be added together to form a colour, and depends on fooling the eye into believing it is seeing, for instance, yellow, when shown red and green light in equal quantities.

HSV comes from a three-dimensional system used in design work, which treats the whole range of possible colours as lying in a

volume shaped like two cones stuck base to base. The spectrum – the Hue – is represented by sectors of colours around the axis of the shape, and the amount of that colour which is present – the Saturation – by how far out you are along the radius of the circle.

The Value is simply the amount of white the colour contains, going from dark to light as you travel upwards. So along the axis of the cones you find the range of pure greys, as they have zero amount of any colour added.

CMYK is a system used purely in colour printing and describes the percentages of four standard ink colours, Cyan, Magenta, Yellow and black – or Key.

In theory most colours could be defined

by just three ideal pigments C, M and Y, which subtract light from one another, as opposed to the addition of lights in RGB, but black is needed because real inks aren't the fictional ideal pigments.

Printing in the four CMYK colours requires four images – separations – of the colour original, one for each ink. These are printed on expensive machines because they have to apply precise quantities of ink with exact control over positioning.

Needless to say, because each system uses complex rules for specifying a colour's components, converting a given colour from one system to another isn't necessarily exact. Always seek help from experts before embarking on a colour-critical printing job, as mistakes are costly.

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16 bit expansion card for A300/400/540/5000

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WHEN it comes to professional publishing there are three programs that are essential: An all-singing all-dancing DTP package, powerful vector graphics software and a bit-mapped graphics application that can handle pictures occupying at least 20Mb – with the capability to do it on machines that don't have that much ram.

Well we have Impression Publisher, reviewed in this issue, (or will have real soon now) ArtWorks has been available for some time and with the advent of the 24-bit colour capable Risc PC, the third requirement for professional publishing has appeared on the scene.

One of the offerings is Photodesk from SpaceTech. It's not finished yet but SpaceTech have provided it for a preview, so it arrived with minimum documentation. However, it's fairly intuitive and didn't actually crash – non-functioning tools and effects just beeped.

What's it for?

Publishing in a professional environment requires the processing of photographs and that's what this type of program does. In the case of Photodesk though, it can be used as a painting program and creative design tool – which to me and you means that we can have a lot of fun.

They used to say that the camera doesn't lie – that was never entirely true anyway, but with this type of program it becomes a complete fallacy, there may be nothing wrong with the camera but you

Professional

can change anything.

Now, there can be good reasons for altering pictures, you might want to highlight a particular part of one while toning down another section – perhaps to turn the whole thing to black and white apart from the person in the middle.

Or perhaps you want to create a montage of images – again this is no problem. But it's also possible to change a laugh into a frown, put graffiti on to a wall or change the words on a t-shirt – an infamous, real, example.

Another example is the cover picture of this magazine, the letters D T P were placed on a scan of the original picture using the definitive Apple Mac program Photoshop.

If you study it carefully enough you can see they've been added, but we wanted the letters to stand out – it could have been done so they blended imperceptibly.

With this kind of bit-map level processing – unlike the gross cut-and-paste fakes you see occasionally – you can't see the join, because there isn't one.

Photodesk's capabilities

So let's take a tour round Photodesk and see what it can do. The first

point is that it *can* handle files of any size because it implements its own *virtual memory* system. This means that the picture is held on disk apart from a buffer in the machine.

When you apply an operation to the picture it is loaded in sections into the memory – of course only those sections that are being modified are loaded. This feature can really slow the application down but SpaceTech are reviewing the memory handling at the moment.

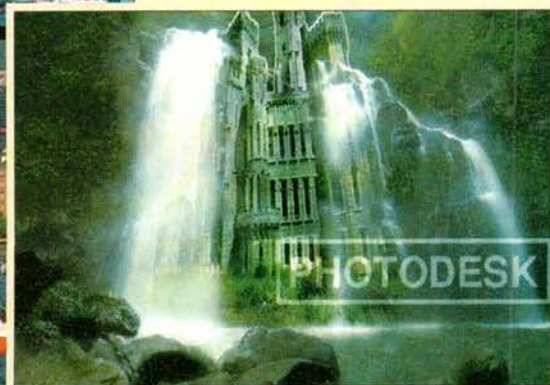
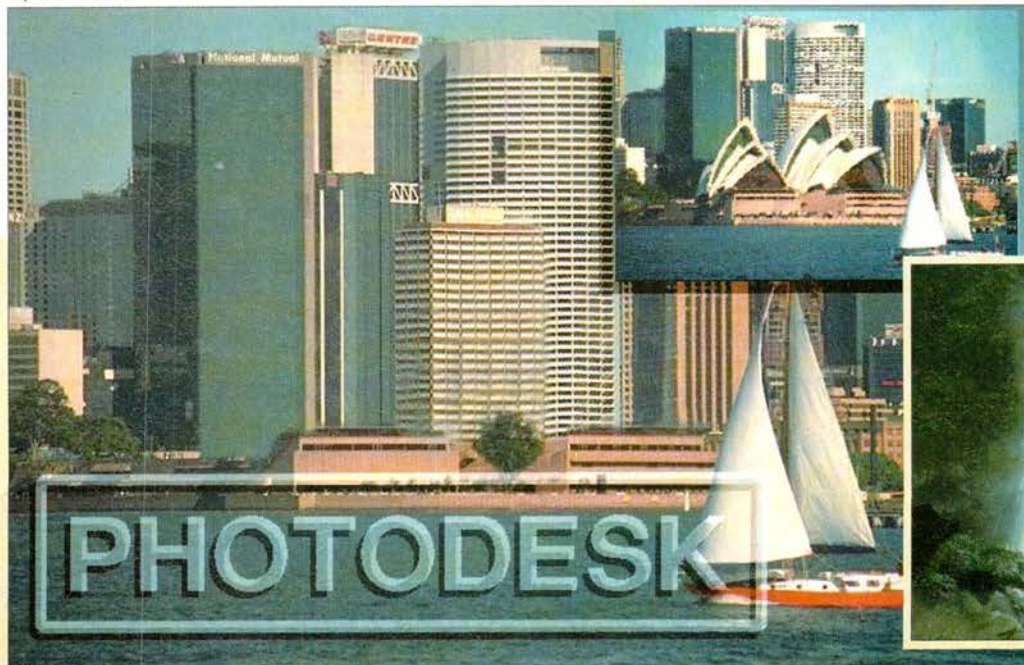
It can also handle many pictures simultaneously as you'd expect and in a number of different formats, although the conversions were a little shaky. The application can be used in conjunction with a program like ImageFS which will import all sorts of alien file types, converting to deep colour sprites on the fly.

It's arguable whether applications like Photodesk ought to use up valuable ram with the code to do their own file conversions when a utility like ImageFS, which does conversions transparently, is available separately and can be upgraded independently. Perhaps the companies could work together?

An important feature is the ability to load a drawfile as a bit-mapped image which can be very handy.

Once you've got a picture loaded you want to do something with it. There are lots of tools and a selection of effects and the tools can be used with every effect. These are the tools that you can work with: The airbrush, paintbrush, drawing tools and the magic wand and the effects are: Colouring, toning, filtering, cloning, masking and

● Okay, who moved Sydney Opera House?



● A tool for the designers imagination

pictures

Steve Turnbull previews
the first of a new type of
application for Acorn machines

image processing.

The airbrush has eight default nozzles which can be added to while the *density* of the effect can be rated from 0 to 100 per cent – when designing new nozzles you can specify things like the angle of spray.

The paintbrush tool has a number of brushes which, again, can be easily added to and you can affect what's called the *opacity* of the effect applied. If you're just applying straight colour this can be described as the transparency of the colour. But where other effects are being used it becomes rather more obscure – though useful.

The drawing tools are the kind of geometric tools you find in Paint, along with a rubber stamp tool and the text tool. These have the opacity setting as well, although the text tool has additional settings including whether to anti-alias or not.

The rubber stamp is quite important as it allows drawfiles to be imported and then *rubber-stamped* on to an image. The demonstration files of Photodesk show the applications logo stamped on to each image.

Of course you can stamp in a colour, tint the colour that's there or use the stamp to copy from one part of the image to another and so on.

The magic wand does, what is described according to the documentation, *classification*. It will search the image for areas of similar colour, hue and brightness and select these areas. It can then apply any other effect to the areas selected. So you could select all light blue areas of a picture and tint them



towards red, or clone another picture on to those areas only.

This tool can be applied locally, in which case only areas adjoining the currently selected area is tested to see if it's similar, or globally so everywhere is tested. There's also a *whole image* option which ignores any limits previously set – by masking for example.

Effects

There are six classes of effect. Firstly there's Colouring which simply places the selected colour on the image. There's also Toning which can be used to move specific colours towards a different colour, so you can grey an area or brighten a specific shade of green.

Filtering affects the image so that it looks as if you are looking at it through a piece of cellophane of the selected colour.

Next comes Cloning which is a particularly powerful tool because it allows you to use any tool to copy from one image, or part of an image, to another.

You select the start point on the source image and then apply the tool on to the destination and the source will appear. For example, you can spray one image on to another.

The Mask is used to protect areas of an image from being drawn on. You can create a mask with any tool

then, optionally, invert it because it's often easier to mask an area to be changed then invert the mask to protect everything else. An existing mask may be moved and draw files can be imported to act as a mask, giving a silk-screen effect.

A mask isn't a simple on/off affair. It's stored as a gradient of steps so that any applied effect will fade into the mask in lesser and lesser amounts, making the join invisible.

The final effect is Image processing, which allows effects like sharpening or blurring the image, embossing, mathematical effects and so on. This area was not complete but is extremely comprehensive.

Another set of tools are for copying, distorting or cropping an image. You simply select an area using one of the supplied tools, then define the target area to flow into – which may be in another image – and the area is copied, with distortion if appropriate. You can adjust both source and destination areas until you are satisfied.

Cropping allows you to specify an area of the image which then becomes the whole image.

Although not all complete, there will be a section for special effects such as gradient fills and also transformations like flipping, scaling, rotating and rippling selected areas of the image.

● A simple tool bar with powerful results



● Take a rose, copy it and create another with a few easy clicks and the magic wand

Summing up

We had intended to include the views of our own Art Editor who has been using PhotoShop on the Apple Mac for three years. However, Photodesk is so comprehensive that we decided to wait until it was finished and allow him to really get to grips with it before offering some opinions.

This product provides virtually all the facilities available on equivalent software on other machines and in many cases extends them beyond what the competition can achieve. A superb package.

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Not all products are available on both platforms: catalogue supplies detailed information



KEY initiatives
across the curriculum

THERE are those who tell us that schools should be using PCs. They see them as the *industry standard*. Then there are others who tell us to choose the software we want to use and then find a computer to run it. I know who I think is right. The very best software for schools, particularly primary schools, is written for Acorn's machines and much of it comes from Sherston Software.

Time Detectives – The Victorians is the latest of many good reasons from Sherston for buying Acorn. Aimed at 7-11 year olds, it is an adventure to take pupils back in time to the Victorian era and to teach them something of life then.

The action takes place in Heston, a small seaside town, and its upper class neighbour, West Heston. Objects from another time have been turning up unexpectedly and others have been disappearing mysteriously.

These events have caused some consternation but the disappearance of three children has caused much more. Acting as reporters for the local newspaper, pupils search for the children.

The first section of the adventure involves a search of Heston. The bird's-eye view of the town is split into six sections and can be searched by clicking on the various streets and buildings.

This process is actually quite difficult if it is attempted without some sort of system and without keeping a record of places visited and information obtained. A paper copy of the street map is provided and was a great help.

Eventually the children obtain a precious and very special sand timer from the old shopkeeper which allows them to travel backwards and forwards between

Elementary, my dear

Frank Jukes takes a trip back to the nineteenth century

Victorian times and the present day.

Before going any further, however, various events over the last 157 years must be placed on a timeline. Starting by asking the pupil for their year and month of birth – and birthday boys and girls are greeted with a Happy Birthday message – the adventure introduces significant events between the present and Victorian times which must be placed against the year in which they occurred.

Tasks involve the identification of items which are out of their time and from today's scenes Victorian artefacts must be identified and from Victorian scenes modern objects. Clicking on them moves them and elicits a short description, which is also available from the *Catalogue of Household Effects* provided as part of the package.

Travelling around Heston and travelling through time, the children are gradually able to see how the town has changed over the years. The way in which the games and challenges have been structured makes sure that observational skills

are exercised and that solutions are not too easily obtained simply by trial and error.

Those who have seen or used any of Sherston's previous packages won't be too surprised to know that the package includes quality resource materials to support work both at and away from the computer.

Together, they ensure that the social and domestic aspects of change over time are brought to the pupils' attention.

This is probably most evident in the search of Mad Mitchell's house in West Heston where houses are bigger. From talking to people outside the house and to employees inside the house, it is possible to get quite a good idea of how some of the people lived.

As is usual with work from Simon Hosler, the pictures are both beautiful and informative with a multitude of animations adding to their interest.

PRODUCT SPOTLIGHT

Product: *Time Detectives – The Victorians*

Price: £39.95

Supplier: Sherston Software, Swan Barton, Sherston, Malmesbury, Wiltshire SN16 0LH.

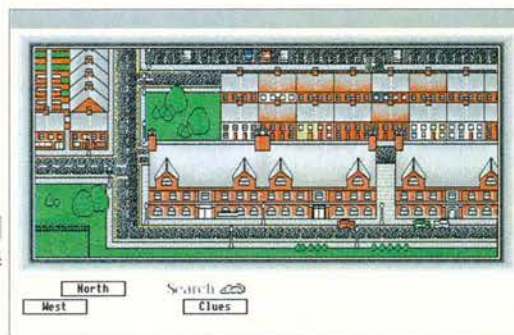
Tel: 0666 840433

● Putting events on the timeline



The screenshot shows a game interface. At the top is a timeline from 1820 to 1890. Below it are several icons representing different events or objects. At the bottom, there is a text box that says: "A new pop group called the Beatles had a number one hit with the song 'Please Please Me'. Find the correct box for this picture." To the right of the text box are navigation arrows.

● Searching the environs of Heston



Summing up

Time Detectives maintains Sherston Software's long-standing and well-deserved reputation for quality software and teaching materials. If this era in our history is one of your chosen National Curriculum Core Study Units then I suggest you invest in a copy.

TIME DETECTIVES – THE VICTORIANS

SUITABILITY

Category	Score (0-100)
Home	25
School	100
Supervision	25

NATIONAL CURRICULUM

History KS 2, ATs 1, 2 & 3. English AT2. Maths AT2. Technology AT5.

Ages 7-11

THE BBC Micro version of Key database was one of the first programs I ever reviewed and the secret of its longevity and success is the large amount of supplementary materials that Anglia TV has provided.

Having been transformed to the Arc some years ago with *Plus* added to its name, the original program is now in version three. Not only that, but we now see the arrival of the complementary KeyCount, a spreadsheet for primary schools.

There's quite a bundle of stuff to look at in this review so let's start with the latest version of the Key Plus database.

There's no two ways about it, Key Plus is a very powerful database indeed. So powerful is it that Anglia modestly subtitles it a *relational*

database management system and they're not kidding. Earlier versions of the package have been thoroughly reviewed in these pages before, but here's a quick overview.

At its simplest, Key presents each record in an index card format on the desktop. Along with this card are two more windows. A

small one contains what might be called the browse controls which allow you to move through the file in steps of one or ten records.

The remaining window contains information about the file you are dealing with. This is all fairly straightforward and all

Success

operations are strictly within the RISC OS style.

Searching is very well organised and the whole thing can be done with very little typing. Clicking Menu over the file window gives you the main menu from which you can select search.

The search window appears and you click Menu over *field* to choose from the fields in the record. Now type in the string or number you are interested in. Things can be even simpler here if the contents of the field come in a multiple choice form, usually referred to as *tokenised*, because the field's contents can also be chosen from a menu.

All the search options – *same as*, *begins with*, *greater than* and so on – are buttons, and at all times options that are not applicable to a data type are greyed out. With all these facilities any search you can imagine, and several you can't, are available.

On top of this is a whole range of data manipulation and display options that make the whole thing so powerful. Particularly useful is the explain option which allows you to view an extended textual

explanation of any field. You also have access to graphics and, – with appropriate hardware – video, along with all the expected statistical and graph tools.

But the real leap that Key introduced all those years ago was the ability to display a spatial aspect to records – on a map. Key Plus displays position but you can select areas

of the map and use that as part of a search of the records. This opens up geographical uses that other databases still leave behind.

The new version adds to this with a feature field that enables graphics, rather than just points, to be attached to maps, so that physical features or social/economic distributions can be shown.

At a simpler level, drawfiles can be used to create customised points on a map and the points themselves can have a relative size linked to a field. As if that wasn't enough, up to four distributions can now be stored, displayed and super-imposed on a map.

However, to take full advantage of Key's facilities, you need to put a lot of work into the creation of files, hence the reasons why Anglia have produced such a range of datafiles, for instance their last four releases

The North Sea includes data for science and geography with files on the world's oceans and seas, North Sea countries, towns and rivers. The science aspect is served with files on seaweeds, birds, fish, whales and seals.

Maps show the North Sea now and in the Permian period, and Europort, the towns file with data that plots on to these maps. You are also provided with a range of drawfiles for worksheets and reports.

Sea Trade and Empire is aimed at the historian. In this pack you get files listing details of various ships – and their crews – built in the 18th and 19th centuries. The Shaw Savill file includes a graphic field for the ships and, if sorted by the date they were built, this can give a quick guide to the development of ship design over the period.

It's worth mentioning that the graphics appear in a separate window and can be exported as sprites. The crews are also detailed, so a comprehensive picture of life can be constructed.

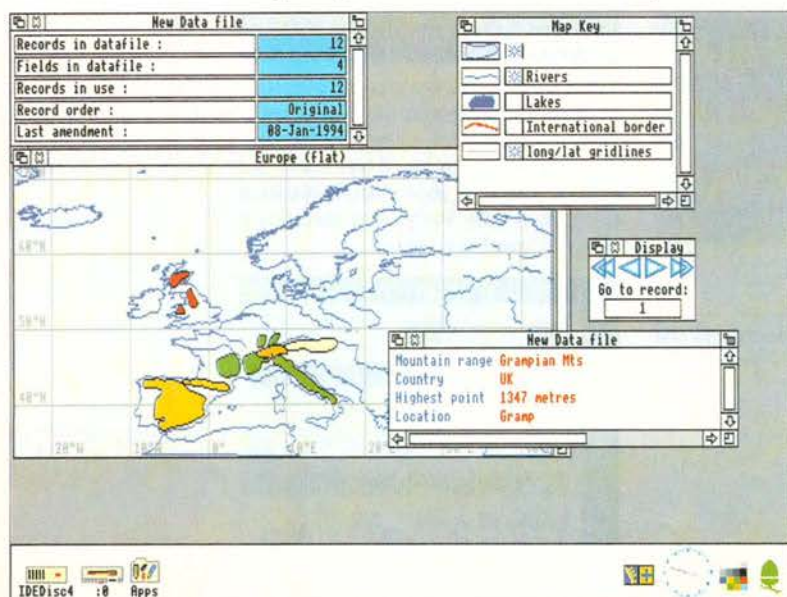
The Civil War provides history on the garrisons, battles and principal participants. Maps are

PRODUCT SPOTLIGHT

Product: Key Plus 3.0
Price: £60

Product: Key Datafiles (North Sea £22, Sea Trade and Empire £18, The Civil War £22, Materials, Components and Techniques £22)

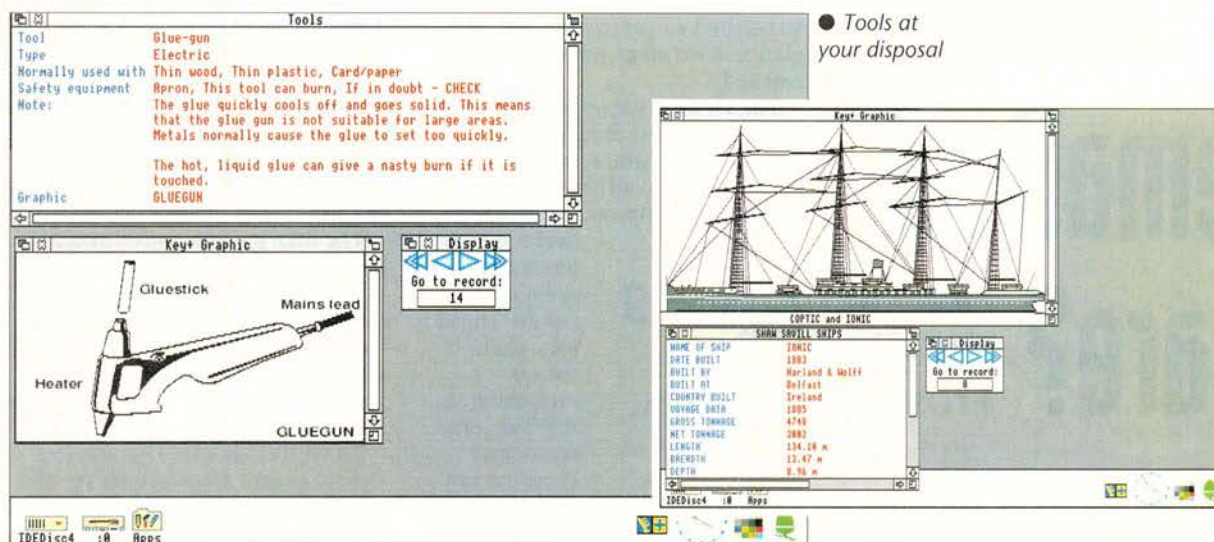
Product: Key Count
Price: £32.50
Supplier: Anglia TV, PO Box 18, Benfleet, Essex SS7 1AZ.
Tel: 0268 755811



● Key Plus with new features

unlocked

Key has been around for many years but has it grown with the machines? Marshal Anderson reports



Tools at your disposal

The Shaw Savill Ships file shows the huge amount of data available

provided so that the locations of the battles can be researched and a series of drawings are provided as a resource.

Finally, **Materials, Components and Techniques** is an imaginative departure. Aimed at Key Stage 3 Technology, it provides a huge amount of practical information on components, tools and joining methods – with illustrations. Details are given of a wide range of different materials and there is a useful glossary of technical terms describing different plastics.

All these come with comprehensive teacher's notes and pupil's resources and, although they require some thought from teachers

to make their application in the classroom really effective, each will prove very useful in the given curriculum area.

A major new application from Anglia is the KeyCount primary spreadsheet. Anglia don't have the product lead here that they had with Key but they have produced a very useful package that stands up well against the competition.

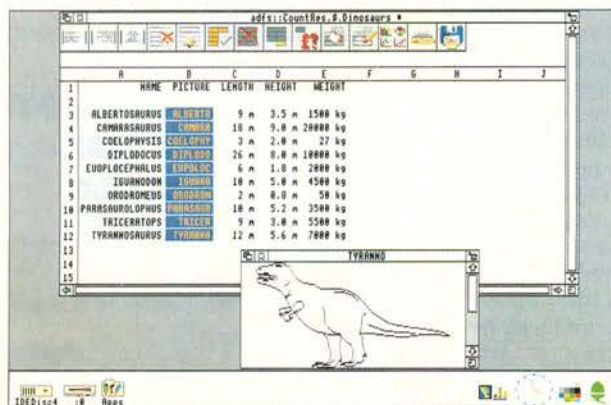
The screen display is well designed and fairly intuitive. Any problems you get here are likely to be to do with the actual nature of spreadsheets rather than this particular design. All the manipulation and display

functions required for Key Stage 2 are available and this package will take you well into the secondary range for most purposes.

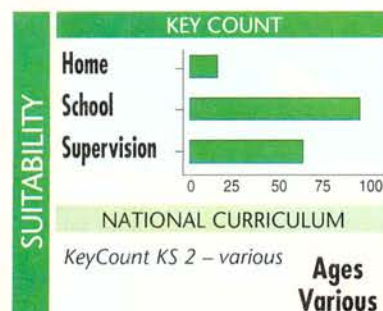
The documentation is comprehensive and very sensitive to the primary teacher's lack of familiarity with spreadsheets. There are plenty of examples and worksheets for children to use, though spreadsheets come into their own when the children provide their own data.

Summing up

You have the added advantage that all the Key programs allow data to be easily moved between each other so that, selecting the right packages for your age range, you can create a very powerful suite of programs.



Key Count's Dinosaur file – making the most of spreadsheets and Key



Mean mathematical software?

Are 10/10 making the grade? Rog Frost investigates.

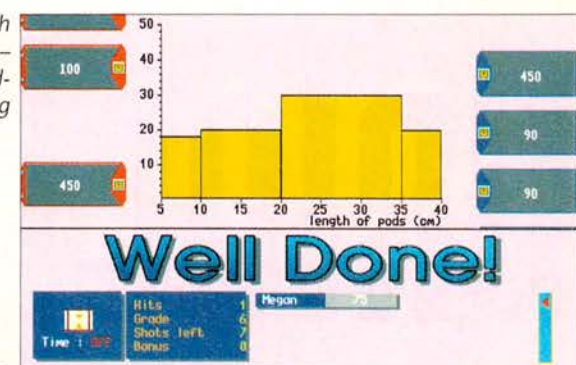
THIS package follows in the line of similar offerings from the Ten out of Ten people. The title makes its purpose clear. It is aimed at students following National Curriculum Mathematics Attainment Target 5 concerning data handling and statistics.

There are six main activities offered and each of these has six levels of difficulty. This means the pack could be considered suitable for a wide age range. The language level is probably too high for the youngest children, and older

system is used to indicate success, practice needed or help needed.

This is tied directly to statements from the National Curriculum so teachers or parents can see, at a glance, what stage youngsters have reached.

The six main games are designed to cover appropriate areas with an arcade feel to them. *Bomber* will be a familiar game to all those who once had a ZX81 computer. A plane flies



over a landscape dropping bombs. The old idea was to flatten everything so that the plane could land.

Here, the aim is to produce a graph which matches the data set shown on screen. The six levels cover different styles of graph. The simplest are block graphs, while the more complex levels involve the construction of cumulative frequency curves or area histograms.

Survey is about the collection of data. It involves looking at a pond scene and keeping a record of the animals that pass by. The information can be stored as pictograms, bar charts or tally charts.

More complex variants of the game leave the pond and move to dice throwing or worm measuring.

Cheers is an old favourite format on 10/10 software. Multiple choice questions are asked and success leads to a counter being moved around a snakes and ladders board. Cheers works on the concepts of probability. Level 1 considers whether events will happen, might happen or won't happen. By level six, students will need to be computing the likelihood of events occurring from the raw data given.

Archer involves waiting until a bow and arrow points at a balloon and then firing it to burst the balloon. The skill involves picking the correct balloon that answers the question. The different levels have slightly different topics. At first, the game is about groups and sets, but later on students will need to

compute mean values and work out complex probabilities.

Whack It requires the user to splat a harmless bunny who happens to be displaying the correct answer. This game also features sets at a simple level and moves through the concept of fairness to complex calculations.

The final game is *Sniper*, another favourite 10/10 format. The maths in this game is about the interpretation of graphs or charts. Questions are asked based on the data shown and the possible answers flit by with the aim being to zap the correct one.

The difficulty level changes the style of graph. Block graphs are the most basic and higher levels work through pictograms and pie charts before arriving at area histograms.

Word Fit, is also included. It is not part of the main program but is designed to encourage the correct spelling of mathematical words.

Summing up

There are a couple of niggles I have about this pack. One is the essentially violent nature of most of the games. I would like to see a more controlled approach but, sad to say, youngsters seem to prefer a bit of shooting.

Secondly, some of the screens are too muddled. They probably look fine on top of the range monitors, but on a low level monitor, or worse a TV screen, it is sometimes hard to read the text.

There is plenty of fun among the learning in what I think is the best 10/10 pack yet.

PRODUCT SPOTLIGHT

Product: 10/10 Maths – Statistics
Price: £25.95
Supplier: 10/10 Educational Systems,
1 Percy Street, Sheffield S3 8AU.
Tel: 0742 780370

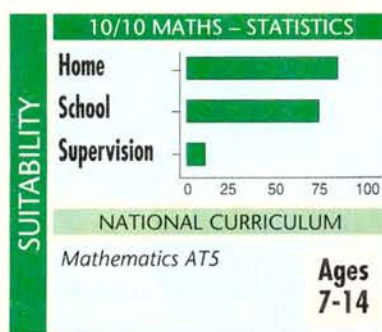
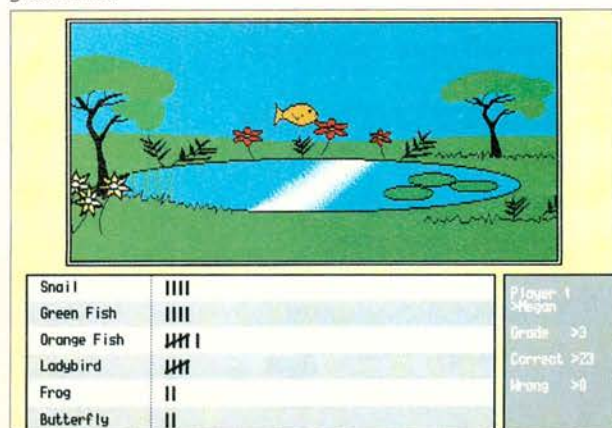
students may find the style of the games a little patronising, although the questions they have to solve are very demanding.

One of the important facets of the 10/10 range is that the programs can be customised. A parent/teacher booklet gives details of how to do this.

Questions can be made appropriate to particular youngsters and the style of display can be adjusted. Equally important is the record keeping.

The name of each youngster who plays is entered and a record card is kept for them which can be displayed at any time. A colour

● Keeping track – an orange fish needs adding to the tally chart on grade three



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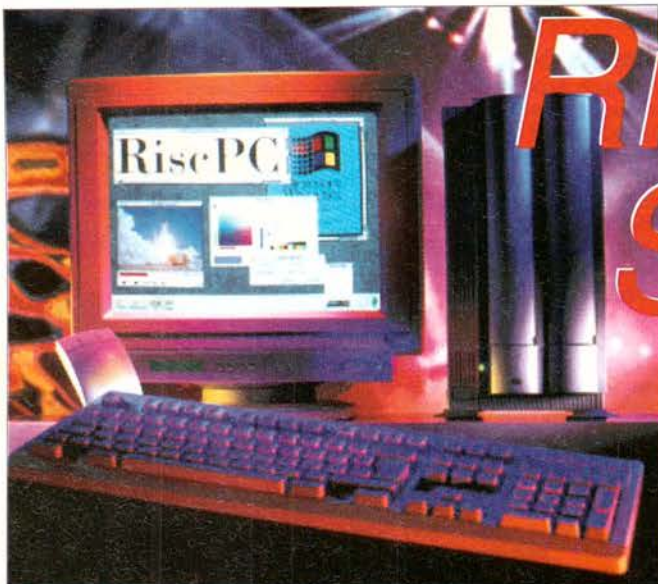
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Photo CD

Now and in the future

Rob Miller concludes his look at PhotoCD hardware, software and applications

THERE has been much speculation recently over Acorn's plans for new architecture machines and the announcement of the new Risc PC series of computers finally puts an end to all the guessing and once again establishes Acorn at the forefront of personal computer technology.

One of the biggest *hints* to the possibility of a new machine was Acorn's adoption of Kodak's PhotoCD system. Although older machines, especially those fitted with graphics accelerators such as Computer Concepts' ColourCard, are perfectly capable of loading, displaying and (to some degree) manipulating PhotoCD images, it is only the new Risc PCs that can handle the pictures with ease.

The size alone of the largest PhotoCD images means that you

need a seriously powerful computer to do anything except view them. At 24Mb per picture, you're going to need lots of ram, as well as fast processing power to hold and manipulate the images. Virtual memory techniques can get around this by using hard disk space as an alternative to ram but this slows down the editing process somewhat.

Don't, though, think I'm trying to put off owners of less *appropriate* machines. Acorn's implementation of the PhotoCD programs – see *Acorn Computing* May '94 – is perfectly capable of running on an ARM2-powered Archimedes and the results on screen are particularly good considering the limitations of the hardware.

It's just that for someone serious

about high-quality picture manipulation, a Risc PC could be regarded as the minimum requirement.

PhotoView and the Risc PC

PhotoView, Acorn's PhotoCD viewer application, runs perfectly well on the new Risc PC, as expected. The main Filer window displays thumbnail images in anything up to 24bpp, depending on what desktop mode you have selected and that you have enough VRAM fitted in the computer.

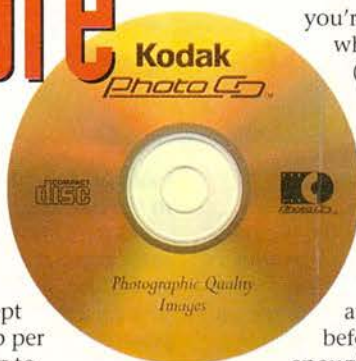
The quality of the thumbnail images in these modes is fantastic and it's difficult to believe you're actually looking at what is in effect, a small (96 x 64) block of coloured dots.

All actions are smooth and any delay in window redrawing is virtually unnoticeable. Thumbnail images are still cached as before, but if you have enough memory in your computer (8Mb plus), this only happens once and pictures can be selected within seconds.

The process of actually loading a picture from the PhotoCD is now faster, making the Risc PC computer comparable (if not better) with any other computer system running PhotoCD software.

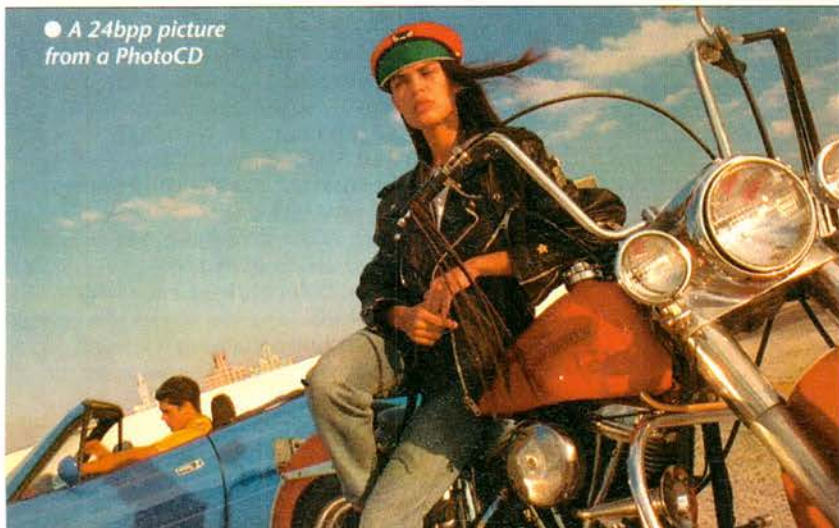
A full size (Base16) picture takes approximately 15 minutes to load when running PhotoView on a Risc PC. This may sound a long time but compares very favourably when set against the time a fast PC takes to load a similarly sized image.

Once loaded, the pictures from the PhotoCD are really what you



● Hardware gateway

● A 24bpp picture from a PhotoCD



Possibilities

PhotoCD opens up all sorts of possibilities, especially for the more artistic among us. If you have a leaning towards the more creative uses for technology, you might be interested in a PhotoCD workshop being run at the Royal College of Art.

Although the talks and demonstrations are based around Apple Macintosh equipment, much of what's covered is relevant to Acorn RISC computers. Further details can be obtained from the course administrator Grazyna Wilson on 071-584 5020 extension 290.



● Drives for all your needs



would call photographic. In 24bpp modes, what you get on screen is exactly what you would get from traditional prints or transparencies.

The benefit of having the pictures in an electronic format is that they can be altered in virtually any conceivable way, which leads me on to my next point.

What do I do with PhotoCD?

Just looking at PhotoCD images is all very well, but most people are going to want to edit them in some way. The launch of the Risc PC has prompted several of the software houses to release graphics packages that function within the 24bpp domain.

Irlam Instruments has had its own 24bpp picture-editing package out for some time, but the announcement by other companies

looks set to end its unique position in the market.

Adobe's PhotoShop is one of the most popular Macintosh programs and allows the user to edit and process 24bpp images for photographic and publishing-related work.

Oregon and Spacetechn have declared their interest in this part of the (Acorn) market with the release of PhotoTouch and PhotoDesk respectively. Both products aim to offer similar facilities to those available in PhotoShop, for a significantly lower price.

PhotoTouch makes full use of the Risc PC's 24bpp ability and offers all sorts of specialist tools for full-colour image manipulation. Transparent, translucent and opaque painting tools mean that you can overlay pictures on top of

each other to create photo-montage effects. A colour filter allows individual shades to be edited without affecting other parts of the picture.

Not wanting to miss the boat, Clares have updated their excellent ProArtisan2 package to provide support for 24bpp images. They already produce ProArtisan 2 CD which provides direct support for pictures on PhotoCD disks.

The package comes on two CDs, one which holds the program, plus a second PhotoCD containing one hundred, high quality, 24bpp photographs. Another new program from Clares is Composition which offers tools to create photo-montages and other picture compositions, all within the 24bpp domain.

Other applications from other software developers are (very) likely to follow and the launch of the Risc PC, as well as Acorn's implementation of PhotoCD technology on all their machines, should encourage the development of some seriously exciting graphics applications. There are even rumours about a Quantel Emulator for the Risc PC which might see the light of day.

Interfacing examples

Interface	Price	Supplier
SCSI	£250	Acorn dealers
SCSI Parallel Adaptors	£75	Atomwide (0689 838852) uses bi-directional parallel port printer version
16-bit SCSI	£118	Oak Solutions (0532 326992)
EMU SCSI/CDFS	£79	Cumana (0483 503121) requires EMU
A3000 SCSI/CDFS	£161	Cumana (0483 503121) external
A3/4000 SCSI/CDFS	£130	Cumana (0483 503121) internal
A3000 SCSI	£99	HCCS (091-487 0760)
SCSI	£99	Lingenuity (0986 85476)
16-bit cached SCSI	£199	Morley (091-257 6355)
16-bit SCSI	£149	Morley (091-257 6355)
Alpha SCSI	£149	Serial Port (0749 670058)

All prices are quoted without VAT or p&p

What do I need to use PhotoCDs?

Apart from the software, a CD-Rom drive is essential to make use of PhotoCD technology. Since my first article on PhotoCD, back in the August '93 issue, a number of companies have launched their own CD-Rom drives into the Acorn market. Acorn themselves have released details of their own *badged* CD-Rom drive for use with the Risc PC.

The following table gives details of all the new CD-Rom drives, as well as those already available for Acorn machines. In some cases, you'll also require an additional SCSI interface and these drives are

labelled as such.

A second table provides a list of compatible SCSI interfaces that are guaranteed (by their manufacturers) to work with multi-session CD-Rom drives. Most SCSI interfaces now come with CDFS 2.21 but you should check with manufacturers first before ordering.

Prices for CD-Rom drives range from £269 (inc VAT) for a basic, single speed unit, up to £1185.57 (inc VAT) for a quad-speed, six disk model.

If you're a single user (ie. your computer is not connected to a network), a single drive is perfectly adequate. I would though, go for a dual-speed drive at least, as waiting for a file to load from CD, especially from a PhotoCD, can take some considerable time.

Unless you're going to be eating sticky sandwiches while you use your CD-Rom drive, I wouldn't bother with a caddy-type drive. These CD-Rom drives have a separate caddy, in which you put the CD. This then slots into the front of the CD-Rom drive.

The caddy is meant to protect the CD from dust and fingerprints but seems more trouble than it's worth. You still need to handle the CD, unless you can afford a new caddy (approx. £15) for each CD you buy, so as long as you're careful, stick (sic) with the draw-loading type of drive.

Of course, if you're planning on buying one of the new Risc PCs with a CD-Rom drive mounted in the main case and standing it on its side, a caddy-type device is essential in order to make sure that your precious CDs don't roll off along the floor when you eject them from the machine.

What of the future?

THE most common type of PhotoCD is called the PhotoCD

● HCCS approach brings down the costs



Master Disk and, at present, is the only format supported by Acorn computers. With the launch of the new Risc PC, it's quite likely that other sorts of PhotoCD will be added to the list, offering picture quality up to that possible from 4in x 5in plate film used by professional photographers.

One format, which I am sure Acorn will be taking a look at, is the PhotoCD Portfolio disk. This is a special format designed specifically for multimedia use and allows the storage of sound as well as the normal photographs.

Sounds can be linked to images so that, for example, a disk containing a selection of birds could also have sound recordings of all their different songs.

Other formats include PhotoCD Catalog and PhotoCD Medical, both of which could see the light of day if the Risc PC gets a decent foothold in

Glossary

Multi-session – Photographs can be stored on PhotoCDs in more than one go (or session). Disks created in this way require a multi-session CD-Rom drive to read them correctly.

bpp – Bits Per Pixel. The number of bits used to store a single pixel. The number of colours available is directly linked to this value. ie. 24bpp = 2^{24} colours = 16,777,216 colours.

Vram – Video Random Access Memory. A special area of memory used to hold the screen memory in. This reduces the overheads on the main processor and increases the processing speed of the computer.

the professional image processing market.

Software developers outside the Acorn world are already starting to take an interest and a German publisher, Digital Arts, were demonstrating a RISC OS version of their DAS Picture image processor software at the recent Acorn User show in Harrogate.

At present, there is a limit of 2Mb for Vram in the new Risc PC. Although it allows for modes up to an amazing 1600 x 1200, this could get even bigger over the next few years.

HDTV exists now although it is prohibitively expensive due to its small user base. It will become more popular and hence cheaper for the home user. No one can be sure of what the future may hold, but rest assured, Acorn look as if they could well be leading the way.



● A unique solution



● Computer Concepts' Pioneer is well suited to network users

Performing CD-Rom drives

Speed	Interface	Price	Supplier
Dual	SCSI	£330	Atomwide (0689 838852)
Quad	SCSI	£999	Computer Concepts (0424 63933)
Dual	SCSI	£499	Computer Concepts (0424 63933)
Dual	own	£299	Cumana (0483 503121)
Dual	SCSI	£425	Cumana (0483 503121)
Single	own	£229	HCCS (091-487 0760)
Dual	own	£299	HCCS (091-487 0760)
Dual	own	£299	Morley Electronics (091-257 6355)
Dual	SCSI	£399	Morley Electronics (091-257 6355)
Dual	SCSI	£299	Vertical Twist (0243 531194)

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Surname	Forename	Address1
Ball	Michael	76 Derwent
Barrett	Gisselle	10 Hampton
Biggins	Sara	6 Station Rd
Brown	Peter	12 Cambnd
Cole	Joanna	61 Rumbold
Cotton	Geoffrey	Fiat 4.
Dickins	Gary	Fiat 4. Sand
Harris	Fiona	22 Tiller Str
Jones	Stephen	Fiat B.
Moore	Graham	124 London
Patel	Chandresh	Fiat 9. New
Phillips	Nicola	Fiat 23. New
Phillips	Tracy	Fiat 23 New

• The listing format

Hoarding data

John Allen
puts Squirrel 2
through its paces

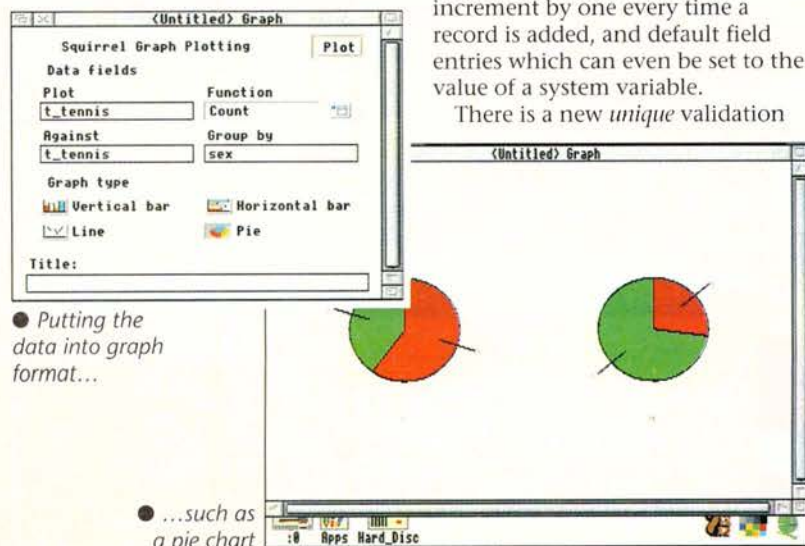
SQUIRREL was the first database to properly use RISC OS's graphical interface. It has been followed by others, most notably S-Base and DataPower, so Digital Services have decided that to keep up with the opposition a *freshen-up* is in order. The result is Squirrel 2.

As you would expect, Squirrel has been updated to use the new 3D icons available in RISC OS 3.10, but it still works with earlier versions, when the older style of icons continue to be displayed.

The irritating window which appears when you try to access a record above the top or below the bottom of the file now only stays on the screen momentarily, which is a great advantage.

It is also easier to move around a database with an optional tool window containing icons similar to the symbols on a video recorder, providing easy movement between records. This is normal with most other databases and much better than the alternative of using the Page Up and Page Down keys or menu selection.

There is also a new display mode:



A database can be viewed as a list, showing a screen full of records at a time rather than just a single card. This is similar to the spreadsheet display of Viewstore on the BBC Micro or databases stored in PipeDream.

It is possible to alter the contents of fields in while the file is shown in list format, but new records cannot be added.

Creating tables

Individual fields can now be password protected. Users will be asked for a password when they try to open a database containing protected fields. If the correct password is not supplied then any protected fields will either not be visible or be read-only, according to the level of protection set.

This protection stops users without the password from deleting records, but allows them to create new ones – although they cannot put data into the protected fields.

Other useful additions when creating a table include the ability to define serial fields, which increment by one every time a record is added, and default field entries which can even be set to the value of a system variable.

There is a new *unique* validation

type which will ensure that no entries in a particular field are duplicated within the database.

Other changes

Simple graphs can now be plotted from the data in a Squirrel database. These can be in line, bar or pie chart form and can be printed, or saved as a drawfile.

Squirrel's graphs are quite basic. They are in two dimensions and the labelling is often not very meaningful, however these can be easily modified in Draw. While the introduction of graphing is welcome, Squirrel has a way to go before its graphs rival the powerful facilities in DataPower.

Designing a report has been made easier but I still don't find it intuitive. It is still often better to export data to other applications and it is easy to save selections of records and fields to a CSV format file for loading into a spreadsheet or used as data for a mail-merge with a word-processor.

It is worth noting that although Squirrel claims to merge data into Impression documents this is achieved by saving a CSV file and then using a separate Importer application to perform the merge.

Summing up

This is a worthwhile enhancement to Squirrel and worth the cost to existing users. New users should compare it carefully with S-Base and DataPower, as each package has different merits and their own areas of applicability.

Squirrel's network and remote ability is particularly powerful. Coupled with the password protection it has great advantages in a multi-user situation.

PRODUCT SPOTLIGHT

Product: Squirrel 2
Price: £139 (upgrade £39)
Supplier: Digital Services, 9 Wayte Street,
Cosham, Portsmouth, Hampshire PO6 3BS.
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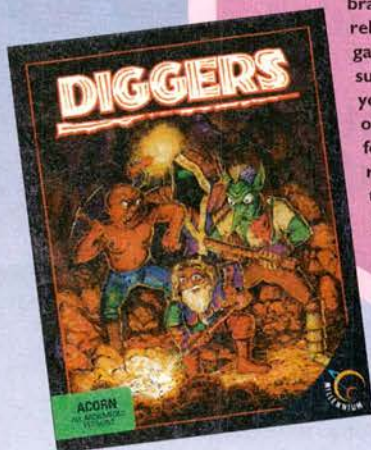
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OVER the past 30 years Britain has been subjected to some terrible and, many would agree, unnecessary cosmetic changes to its architecture, landscape, public buildings and the like.

The planners reached a total cultural low point with the now ubiquitous shopping mall and the almost complete replacement of red telephone boxes with those draught-ridden shower stalls.

You know what I mean – not only can you now make a call, but with a freezing lake of stagnant water and bobbing crisp packets lapping at your feet you can wash the mud off your boots too.

The rot set in when Britain went decimal and the new money allowed enormous but well-concealed price rises. Along with this came a change to the familiar road signs we all knew and loved to spot on those tiresome and seemingly endless car journeys our parents would subject us to.

Gone were the delightfully quaint signs with words written under a well-wrought picture, to be replaced with totally ambiguous and uniform continental signs, with strange symbols and no words to tell you what the symbols might mean. Millions will remember their first encounter with this now familiar sign:



Was it some poor bloke trying manfully to erect a much-abused umbrella in a force 10 gale? And if so, why were we being informed of this titanic and irrelevant struggle? And what on earth's going on here:



Does it mean *Watch out for Eddie Kidd*? Or perhaps *Motorcyclists*

Signs of the times

Mike Goldberg regrets things aren't what they used to be

travelling on the top of cars to save petrol can just get off and drive sensibly. That was the trouble with the new signs. Until the familiarity of them set in they were meaningless – no accompanying words, you see.

But eventually we all learnt to comprehend the meaning of the symbols, words became superfluous and allowed one to drive anywhere in Europe, safe in the knowledge that you could now identify that you were stuck for hours at French roadworks as well as British ones.

Actually, I think a lot of the icons and designs are really quite clever, based on the mind's swift association of pictogram to meaning. However, there are some signs that, I'm sorry, just don't work or come anywhere near how things really are. To illustrate just what I mean here's how a typical car journey really is today:

Take hold-ups caused by roadworks on motorways for instance. Anyone who has travelled the benighted pathways of Britain's wonderful network of motorways in the past couple of years cannot have failed to notice that woefully inadequate sign, that harbinger of abject misery: ROADWORKS AHEAD – DELAYS LIKELY.

Now that sign, accompanied by its much hated counterpart placed

at the end of the roadworks: SORRY FOR ANY DELAY, in no way reflects the distress, murderous anger and sheer unbridled fury of the incarcerated driver!

And *delay* is not the right word. Not so much a delay as a cancellation. So, perhaps this revised sign might be more appropriate:



Better still, I've been on the M25, so maybe this would do:



Okay, you're on the motorway and you've just spent an hour stuck in a tailback behind a Sierra with the most objectionable children/apes in the back pulling faces at you, but what you really need, urgently, is, er, to answer a call of nature.

Now I know Services are provided on most motorways, but remember, it's just taken you an hour to travel two miles and you needed to go when you first encountered the queue of traffic.

There is definitely an unseen power at work which provides you with this next roadside sign:



Unmitigated torture! Talking of Services, who are those people that can afford to eat at one? When my family travels we all pitch in to buy a bag of crisps between us. Perhaps a more typical Services sign should be modified thus:



Services. On a motorway they know they've got you. You run low on petrol or high on bladder – you've got kids too, eh? – so you have to stop. Where else can you get two tasteless, plastic-clad tuna and mayo sandwiches for two quid?

And why would you want to? Perhaps Services signs should each have the pawnbrokers sign hanging underneath for those of us with a realistic 90s income!

Right, suitably vexed from multiple delays and a wallet-voiding pitstop, all you really require is the uninterrupted continuation and swift cessation of the journey.

You're tired, angry, skint and have a headache the size of a small

planet, when suddenly the whole car is engulfed by an ear-splitting, spine shattering cacophony of what sounds like a Kenworth 18 wheel truck locking the brakes on at 70 mph.

And what does the sign say?

EXPERIMENTAL ROAD SURFACE. Experimental? More like *completely mental*! Just what have they experimented with?

Obviously jet-engined aircraft, about the only form of transport that's loud enough to drown out the unbearable screech of tortured rubber being wrenched from agonised tyres! And these experiments have been going on for years. We all knew the results years ago. You failed!

Those horrid stretches of road should display this sign:

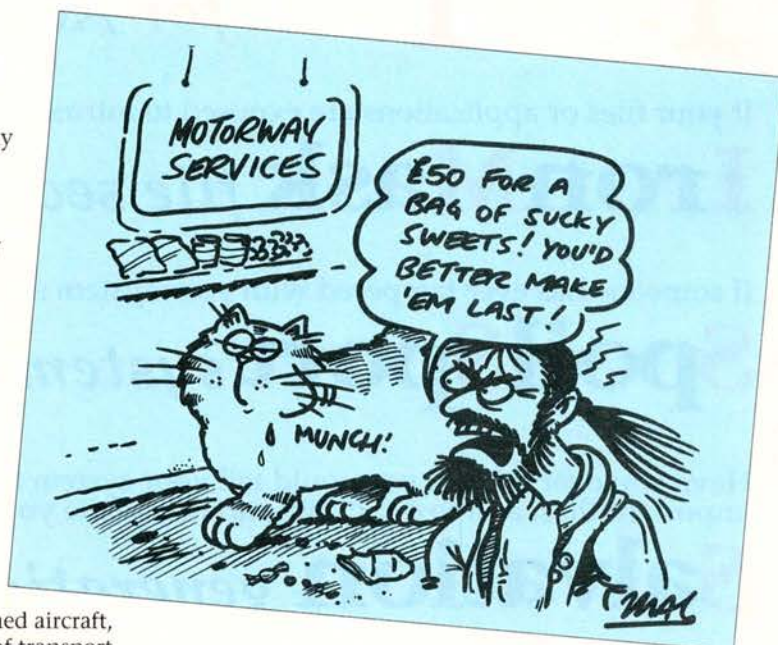


I think I have made the point now. When the continental signs came in we all made up our own silly interpretations of them. Now we look at them and think they don't tell us the whole truth, a bit like the present government only more pleasant to look at. So, I have come up with some new meanings for old signs and new signs for old meanings if you like.

The program *slideshow* on the disk displays these and a few more and can be quite fun, using it like a magic lantern show. The idea is for you to create your own signs from the blanks provided in the *Paint* file *signsfile* and make up your own daft meanings.

Then make your own slide show out of them using the program.

Run the program first to witness my attempts at humour and to install the function keys to help you modify the



program later.

Create any number of signs using the blanks in the *signsfile* calling them anything you wish. Save the new file as *signsfile*. Modify the main program using the function keys if you're working in BasicEdit:

Press F1 to alter the variable *ns%* to the number of slides you've made. Note if there are 10 slides we're talking 0 to 9 not 1 to 10, so let *ns%=9*.

Press F2 to display the current set of sprites. Each sprite name is converted to the dimensioned variable *sign%(n)* where *n* is the order in which the slide will be displayed. Remember to call your first sign sprite *sign%(0)*.

Press F3 to display the message accompanying the sign in the form of DATA. These lines of DATA must be in the same order as the numbers of the sprites and must not be more than 38 characters long if you want to keep things neat.

I would really like to see anything you create, be it humorous or ruthlessly realistic. Either save your designs just as sprites in *Paint* or make your own slide show collection like I did and send it to me on disk. The most favoured designs will appear in a later article, so go ahead, make me laugh!



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WHILE it's true that not many people have a Risc PC yet, we thought we'd start taking a look at what you can do to organise it for your own use. After all, every machine takes on the characteristics of its owner – in fact you can tell how organised a person is by looking at their hard disk.

When I got my hands on to the new machine the first thing I noticed on clicking the hard disk icon was the lack of System, Scrap and Fonts while Boot had changed from a desktop boot file to a system-type application.

In true hacker-style, I immediately Shift+double-clicked on Boot which opened on to a directory which looked both familiar and strange. There are the obvious components – Boot, Help, Run, and Sprites but then there's the less familiar things like Choices, Utils, Resources and Library ... and I still hadn't found those essential system applications.

Into Resources

Although this wasn't the initial direction that my own investigations led me, let's get rid of the puzzle of the missing System – it's in the Resources folder, as is Scrap and Fonts along with Configure and ARMovie.

At the boot stage, every application found in the Resource directory has its boot file run using a special utility called *Repeat* found in the Library, a description of what it does is found in the panel entitled *Repeat explained*.

Only very general resource items would be added here, for example there is a new resource called

Customising the machine

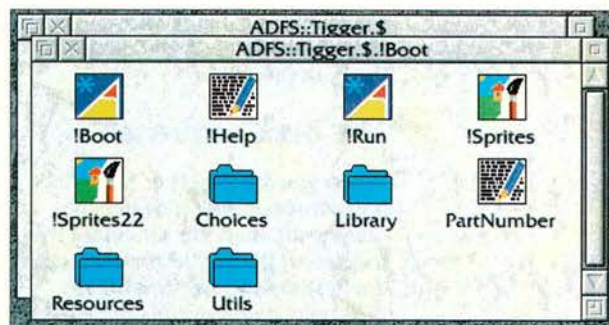
Steve Turnbull explores the extensive boot options on the Risc PC

GameStore from Acorn, which can be installed and then used by game conversions which don't use Acorn save boxes and provides a standard location to put saved games.

Also in here is the actual resources used by the *Configure* application. For example, all the monitor description files are here, so if you have a new monitor you need to have a description file for it as well – all the Acorn ones are included of course. These monitors appear in a menu of the Screen configure section

A monitor description file provides a list of all the standard modes that will appear as menu options on the Display Manager mode chooser dialogue box. In case you don't have a monitor description file, there is also an *auto* setting that

recognises the general type of the monitor and will give you



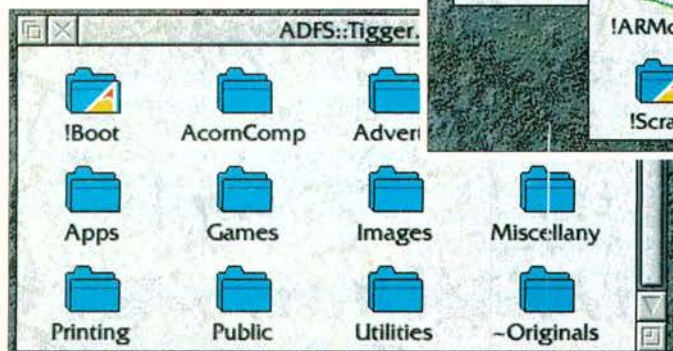
● A multitude of sins

enough to work with.

The configure directory also contains the standard NewLook backdrop textures – although there's nothing to stop you using your own – which you can use to make your desktop look nicer.

Unfortunately, you can't add your own textures without removing existing ones because Configure assumes there will only be seven textures.

The final point here is that to run the Configure application you double-click on Boot – but if Configure is missing, an error message pops-up saying that you



● Resources to access

● On the top



can't re-configure this machine. This is a sort of safety feature as you could put this application somewhere else.

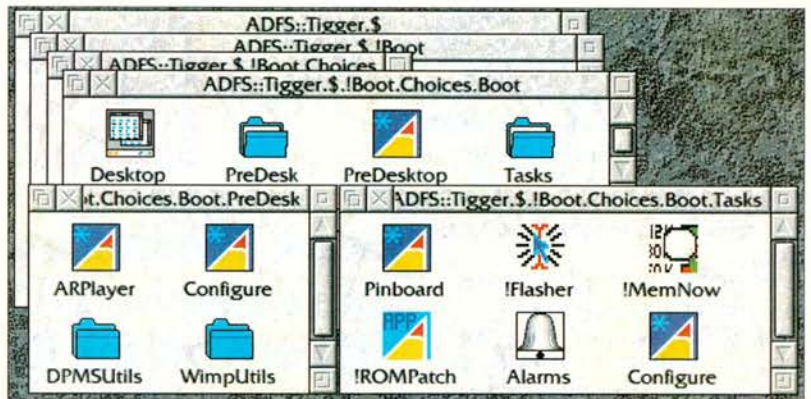
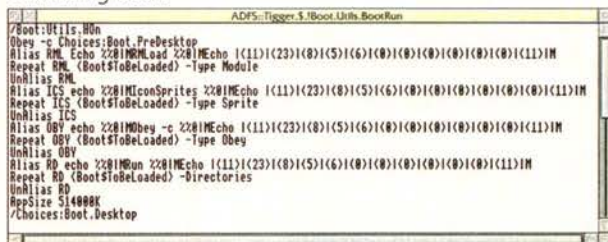
Also within Boot is the *Utils* directory. This contains programs, routines and obey files used by other parts of the boot system but which aren't for general consumption – otherwise they'd be in the *Library*.

Okay, so that's a quick tour of the Boot directory omitting what, for us, is probably the most important part: *Choices*. Within this is a directory called *Boot* which contains everything that is executed during the boot process.

The boot sequence

When you switch on or hard break the machine it begins by running the Boot file. Of course in this case it isn't a file at all, it's an application and the Run file in the application controls the whole

● Running boots



● Making choices

boot sequence.

The first thing that is done is that VProtect, located in the *Utils* directory, is loaded and it's this that should be updated with new versions as they are issued. Various checks are made to ensure that the machine is running RISC OS 3.2 or better – you get an error message if it isn't.

The various *Choices* directories are set up – with options which will be different if used on a network – then two system variables are set up, one for programs to be executed before the desktop is running and one for those to be carried out after the desktop is running. From here another obey file *BootRun* is run which actually begins to run the various set-up options.

BootRun starts by running yet another obey file called *PreDesktop*

which is used to set up useful system variables and, to quote the file itself, "options that don't have other places to be set up".

It's also in here that you can set up applications that should appear in the *Apps* directory. So if you want to add to the selection you can.

PreDesktop may also be modified and added to by other applications when they are installed on to the computer.

Once these set-ups have been accomplished, control returns to *BootRun* and it proceeds to *RMLoad* any module in the *PreDesk* directory, performs an *IconSprites* command on any sprite files, runs any *Obey* files and also runs any directories – it assumes the directory has a *Run* file in it.

The final action of *BootRun* is to run the file called *Desktop* in the same directory as *PreDesktop*. This file is file-typed as a desktop boot file, which means that when it's run it causes the desktop to be started up first.

This file's first action is to do a *Filer_Boot* command on the *Boot* application itself and on all the *Resources* – System, Fonts, Scrap and so on. Once done, control goes back to the *Desktop* where (perhaps by mistake) *Filer_Boot* is performed on the resources again.

Then, anything located in the *Tasks* directory is run. By default some configure options are set up and also a *ROMPatch*, which modifies the operation of the operating system in some way.

Desktop then has the option to perform boot or run operations on programs that you don't want to put into *Tasks*. And that's all there is to it.

What you can change

Now we've got this far, the most

Getting it wrong

If, as I did when I started messing around, you upset your Boot application to the point where it won't run, and you get the unpleasant message about everything not being run, you'll have to reset the boot file.

Acorn have pre-empted this problem by providing an application in the *Diversions.Tools* directory – weird place – called *ResetBoot* and that's what it does.

It first renames the *Choices* directory to *OldChoices* and then copies the default version of *Choices* into the *Boot* directory.

Of course if you've upset things too much – and I did – the machine won't boot up at all, luckily you can use a Shift+Control+Break which starts up the machine without running through the boot sequence. At this point you have a machine that runs but it probably won't do anything useful.

What you have to do now is locate *ResetBoot* and run it. You may find that when you click on the hard disk icon you will have to hold down the control key to prevent the boot sequence

from being partially run and, perhaps, hanging up again.

You can then use the *OldChoices* directory to restore some of the settings you've made that you know will work. For example, I keep my Pinboard options in the *Choices.Boot.Tasks* directory – after I'd made the mistake I was able to put this, which was still correct, into the restored *Choices* directory without having to rebuild it from scratch.

In *Diversions.Tools* there is also a program called *SaveCMOS* which allows you to save and restore cmos ram settings, or reset them to the factory settings as well. It's worth saving them after your machine is set up the way you like it.

There's a third application here called *ShowScrap*. This has the dubious usefulness of opening up the Scrap directory so you can see what's in it. About the only time you might find it handy is if a program crashes in the middle of a file transfer via the Scrap file. In this case there's a chance your data may be available for recovery.

Repeat explained

This library routine, which can be invoked from any Obey file or the command line with the command `/Boot:Library.Repeat ...` – or just `Repeat` if the Library has been set up correctly – takes a target directory and allows a star command to be applied to every object in the directory that conforms to its specifications. For example the command:

```
/Boot:Library.Repeat RMLoad <MyApp$
Dir>.Modules -Type Module
```

will perform an `RMLoad` on every file of type `Module` in the directory `<MyApp$Dir>.Modules`.

This command is used extensively in the various boot files to perform `Filer_Boot` operations and `Run` operations on whole directories.

It's also used in conjunction with another command to force all the

applications in the Apps folder on the hard disk to appear in the Apps folder on the iconbar.

The full syntax for the `Repeat` command is:

```
Repeat <Command> <Directory> [-Direc
tories] [-Applications] [-Files |
-Type <file type>] [-CommandTail <c
mdtail>] [-Tasks]
```

The `Command` is the one to be applied to matching objects found and the `Directory` is the one to be searched. The options `-Directories`, `-Applications`, `-Files` and `-Type` set what type of object is affected by the command, although by default all files and directories are assumed.

If included, the command tail will be added to every command issued, while `-Tasks` forces the command to be issued as a `*WimpTask` as opposed to a simple command.

important thing to consider is what you can change to customise the program for your own usage.

The first thing I considered is that, since I always find that I have to modify desktop Boot files by hand, I would use this as a last resort, and in fact it becomes pretty redundant – well I don't see any need for it anymore.

So when you want to add things to the boot sequence you make this decision initially: Do things you want to load or run belong before or after the Desktop has started up? Then the second question is: Should it be put inside the Boot application or not?

So you end up with a two by two grid which is illustrated on the right along with what it is you should change.

For example, if it belongs before but outside Boot, you modify `PreDesktop` to initialise, load or run it from wherever it lives on your system. Or, as in my case, I always have `Alarm` loaded with a set of alarms, so I placed the Alarms file in the `Tasks` directory so that it runs automatically, hence loading `!Alarm` in the process.

I also put other small Desktop utilities into `Tasks` so that they are always booted. But programs such as `Impression`, `Eureka` and so on, belong in an `Applications` directory, so I modified `Desktop` to ensure they

were initialised on start-up.

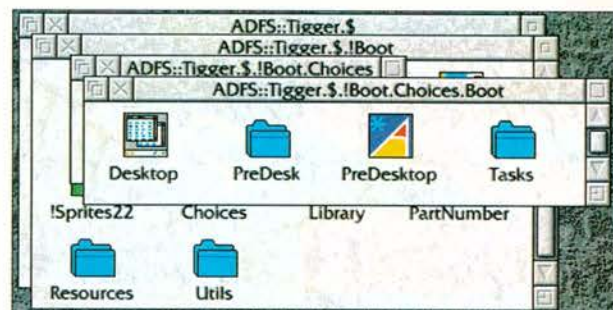
Wrapping up

The whole boot system is an extension of the original boot concept and involves some extremely nifty usage of obey files. For example, one of the clever things you can do in an Obey file is to include a command like:

```
If "variable"="" then obey
```

The effect of this is to check whether the variable doesn't exist and, if it doesn't, the `obey` command forces the current obey file to cease being executed, any further command lines being ignored. This means that tests can be carried out to see if something has failed as the boot sequence proceeds.

In some cases, failure causes the



whole boot sequence to terminate with an appropriate error message but in other cases the process may just continue.

● Getting priorities right

For your own convenience, when referring to files and applications it is preferable to use path names that are relative to the boot path, `Boot:`. When adding things to the boot sequence rather than hardwiring paths that include the hard disk name, this ensures that, if you change the hard disk name again, problems do not occur due to your additions.

Once I'd managed to sort out exactly what was going on and how everything interrelated, it was fairly simple to see what changes could be made. But it can take quite a bit of work. I hope this helps to give you a head start into the boot.

	Run before Desktop	Run after Desktop
Okay to put into !Boot	Put into PreDesk directory	Put into Tasks directory
Keep outside of !Boot	Modify PreDesktop file	Modify Desktop file

● Where to put your boot changes

IfThere explained

The `IfThere` command is quite self-explanatory and exists as a utility in the Library, so can be accessed with a simple `IfThere` in an Obey file or from the command line.

It takes a filename as its first parameter, followed by `Then` and a command, which may be followed by `Else` and another command. It checks that the object exists and if it does it executes the command, otherwise it carries out the `Else` command, if there is one.

It is used primarily to check if specific Obey

files exist and if they do they are executed, like this:

```
IfThere <MyApp$Dir>.Resources.RunCo
nfig then /Run <MyApp$Dir>.Resource
s.RunConfig
```

This command actually converts into a simple `If ...then...else...` command when it's executed and it's that built-in command that generates the errors.

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AT the time of writing, Dennis Potter is dying from cancer. Karaoke and Cold Lazarus – yet to be completed – are the titles of his last two works, to be broadcast on BBC TV and Channel 4 respectively.

These two stories share the same central character and it is his wish that they each be broadcast on both channels, to give a greater continuity. Here's hoping Channel 4 and the Beeb agree. It would be fitting if two such organisations, usually in competition, could work together for once.

Incidentally, I make no apologies for raising a subject which may not seem immediately relevant to TechForum. In any case, it is – watch these programs and you'll realise why.

Wimp slots

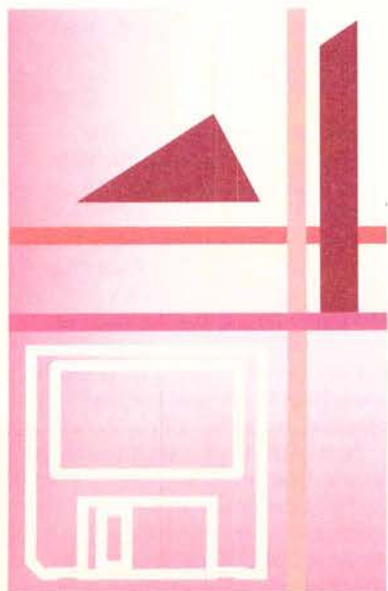
A reminder. Always ensure you specify a wimp slot which is a multiple of the page size of the machine on which the program concerned was tested.

If you don't, its allocated slot will be rounded up to the nearest page and it may fail to run on a machine with smaller page size, as it could then be allocated less memory than during the tests.

This is especially relevant now as the new Risc PC machines may have much smaller page sizes, independent of their ram size.

A real doozy

God bless Acorn. The following bug not only affects all users of the *dbxtool* C RISC_OSLib function, but



also users of Paint and Draw, which contains the same code. This concerns the 24-bit colour selector and is best explained by way of a demonstration.

Load Draw, open a document and set the style fill colour to white – any colour with non-zero components will do. Lose the menu, then bring it back again and re-enter the colour selector. Drag one of the colour bars down to zero and note its appearance.

Now, drag the colour selector off screen and back on. You should see that an extra column of pixels have been plotted to the left of the zero length colour bar, making the left side twice as thick as it should be. Not very serious perhaps, but it does reflect what turns out to be some hideous code.

A look through the source code reveals that this occurs as an internal function *my_rectanglefill* called in the redraw loop, with a rectangle of zero width, and because of the way it has been written, instead of a zero length rectangle, we get one of length minus one. Hence the rubbish is on the wrong side of colour bar.

If you have the source code to *dbxtool*, you can at least stop this occurring in your own programs with a trap on zero-sized rectangles in *my_rectanglefill*. By the time I'd located the source of this problem, I'd discovered another even uglier fault.

This one is much more serious. However, it may be about to surface only now, thanks to a change in the colour selector template made by Acorn so that it is consistent with the current RISC OS Style Guide.

The selector's redraw code actually alters the graphics window and it doesn't even bother to set this to the intersection of the original window and the region it wants to plot.

This is strictly forbidden for good reason – it can lead to incorrect screen update, with other windows being overwritten.

This occurs when there has been no colour selected. This is represented in the *dbx* by cross hatching and it is this which is plotted by first altering the graphics window.

For this to cause a visible fault on screen, the *dbx* needs to be partly obscured by another window – the result will then be that a redraw incorrectly plots over this overlap.

At the moment this is unlikely to happen as the colour selector is usually transient and without a back icon, so spends most of its open lifetime at the top of the window

stack.

However, with the change in style guidelines, Acorn have provided a new colour selector template – to those with access, this can be found on Developers Disk Newsletter #32.

This time it does have a back icon, and if this is clicked on and the window adjust dragged around the screen – assuming solid window drags is configured – this bug becomes immediately obvious.

Such redraw faults are amateurish

Karaoke and Cold Lazarus

Michael Rozdoba looks at some of the problems inherent in your 32-bit system

in the extreme, so to see this coming from Acorn is virtually unbelievable and to think that this gibberish has been permanently written into several hundred thousand roms, within Draw is ludicrous – no wonder Acorn don't recommend the use of their systems in safety critical situations.

Don't despair

A personal note to Peter Coaker, who has written to TechForum on three occasions. The problems you describe aren't your fault – yes, you can blame Acorn, yet again. I'll explain next month.

In the meantime, see what happens if you replace all uses of 3D-bordered buttons which invert upon selection within the offending programs, with non-inverting ones – use validation string command R1 instead of R5.

Stop me, buy one!

Don't forget, 42 may be the answer, but we have yet to discover the questions. If you have a question, it is your duty to society to write in, so do it NOW.

To: TechForum,
Acorn Computing,
Europa House, Adlington Park,
Macclesfield SK10 4NP.

RISC OS 3 CONTAINS many features which allow easy modification of the system for foreign markets. One of the most useful is MessageTrans, a module which provides facilities for looking up text in a file. This allows any text the system uses to communicate with the user to be kept separate from the code and in a central resource. This enables anyone translating the system to work without access to the code.

You may have seen files called *Messages* inside applications which contain all the textual messages that the application uses. Under RISC OS 3, all parts of the operating system use message files as well.

If you click Menu on the Apps icon on the icon bar, choose *Open '\$'* and then open the directory *Resources* and you'll see a directory for each module, most of them containing just a message file.

Unsurprisingly, RISC OS provides support for accessing these files in the form of MessageTrans. This module can load message files and extract text from them in a variety of ways. Each entry in the file has a token which is used by the program to identify which bit of text it requires.

The Message file format

It's not necessary to put the text used in window templates into a message file. Message files are designed to allow modification of textual messages without changing the program code, so as you only use the template editor to change text in templates, you wouldn't need to change your code anyway.

Message files are text files which follow a simple format. In the most basic case, it is simply a file with lines consisting of a *token* and *value* on each line, separated

by a : like this:

```
TOKEN:Some text
```

When the token *TOKEN* is looked up by the program, the string *Some text* will be returned. This string is the value. You can have multiple tokens for the same value, separated by newlines or /.

This allows you to use the same value several times in your program, but retain the flexibility of being able to change just one without modifying the code. In the file:

```
TOKEN1
TOKEN2/TOKEN3:Some text
```

the value *Some text* is returned for the

case letter for tokens, and they are case-sensitive. You should use short, but informative, tokens for quick retrieval and ease of identification when you are programming.

Using a message file

Before using a message file you must first open it. You can get MessageTrans to create a buffer for it in the RMA, but it's best to create one in your application's workspace to avoid fragmentation of the RMA. This will also stop your program from leaving claimed blocks of memory in the RMA if it crashes during development.

To open a message file, use

MessageTrans

Ben Summers
shows how to file
your messages

tokens *TOKEN1*, *TOKEN2* and *TOKEN3*. Comments can be added in the file to help you find your way around it when you are editing it, by starting the line with a #, like this:

```
# This is a comment
```

You can also indicate where you want parameters to be substituted into the strings by placing a % followed by 0, 1, 2 or 3 into the value as shown below:

```
TOKEN:Parameter 0 = %0, parameter 1  
= %1
```

In the call to find the value, you can specify up to four parameters which are substituted for these values. If no parameter is specified, the string is left alone. If %% is included in the value, % is substituted for it.

You can also include wildcarded tokens using the ? character. For example, in the file:

```
TOKEN1:Some text
TOKEN2/TOKEN3:Some more text
TOKEN?:Even more text
```

TOKEN1 would return the value *Some text*, while *TOKEN2* and *TOKEN3* would return *Some more text* and any other six letter token starting with *TOKEN* would return *Even more text*.

You can use both upper and lower

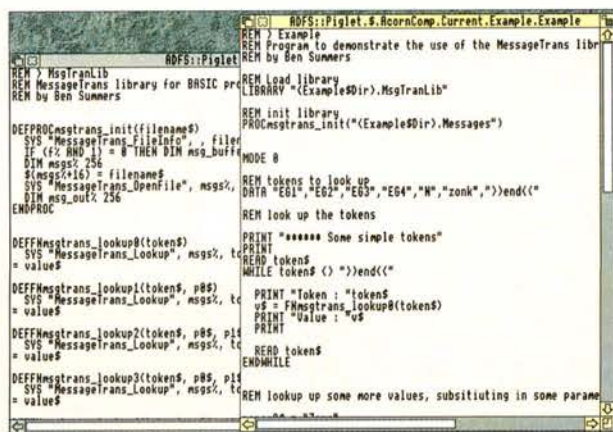
code like:

```
SYS "MessageTrans_FileInfo", file  
name$ TO f%, , size%  
IF (f% AND 1) = 0 THEN DIM msg_buff  
er% size%  
DIM msgsg% 256  
$(msgsg%+16) = filename$  
SYS "MessageTrans_OpenFile", msgsg%,  
msgsg%+16, msg_buffer%  
DIM msg_out% 256
```

filename\$ should be set to the filename of the message file you want to use. For an application, it would be of the form *<App\$Dir>.Messages*. You can have more than one file open at a time if necessary.

This code uses the SWI *MessageTrans_FileInfo* to find out how much memory is needed to buffer the file in memory. It returns some flags in *f%*, and the size required in *size%*.

Bit 0 of the flags is set if the file is already in memory, for example, held in the Resource filing system, where applications such as Edit and Draw are kept. If this is not the case, the code claims a block of memory using



the DIM statement to store the file.

Another block is claimed to hold the file descriptor – a 16-byte block of memory which MessageTrans uses to identify which message file you want to access – and the filename of the file.

The SWI *MessageTrans_OpenFile* is used to load the file into memory and set up the file descriptor. Finally, a block of memory, *msg_out%*, is claimed for use in look-up calls.

To look up a token, use *MessageTrans_Lookup*. In the simplest case with no parameter substitution, the call would look like this.

```
SYS "MessageTrans_Lookup", msg$, token$, msg_out%, 256, 0, 0, 0, 0 TO , , value$
```

msg\$ is the file descriptor which was used to load the message file, *token\$* is the token to be looked up and *msg_out%* is the block claimed earlier to receive the string.

The number 256 is the size of *msg_out%*, and the four zeros show that no parameters are to be substituted. The value is returned in *value\$*.

In all cases when you supply a token, you can also supply a default value which is used if the token cannot be found in the message file. If this default value was not present when the token could not be found, an error would be reported. You supply the default value by appending it to the token you pass, separated by a : like this:

```
token:Default value
```

It isn't necessary to use this facility – after all, if someone messes around with your message file they shouldn't be surprised if your program doesn't like it. It is useful, however, if you're writing a library of routines which may be used by someone else.

When you have finished with the message file, you must close it with *MessageTrans_CloseFile*:

```
SYS "MessageTrans_CloseFile", msg$
```

This should be called up in your application's quit routine.

MessageTrans' ability to perform parameter substitution is perhaps one of its most powerful features. Instead of looking up lots of different tokens to make up the required string, you can simply specify up to four places where parameters are to go. You pass these parameters to the look-

up call.

In the example of the look-up call above, all the parameters were zero specifying that a substitution should not take place. However, if those parameters are pointers to strings, they will be substituted into the string retrieved from the message file. To substitute parameters, use code like:

```
SYS "MessageTrans_Lookup", msg$, token$, msg_out%, 256, p0$, p1$, p2$, p3$ TO , , value$
```

In the above example, *p0\$* is substituted for %0 in the value, *p1\$* for %1 and so on. If you use parameter substitution, you don't have to include all the parameters. Any number of parameters can be zero.

If you want to substitute a number rather than a string, use *STR\$(number)* to get Basic to create a string for you, as in:

```
SYS "MessageTrans_Lookup", msg$, token$, msg_out%, 256, STR$(p), 0, 0, 0 TO , , value$
```

where *p* is the number you want to substitute for %0 in the value.

MessageTrans library

I've written a library of routines which you can use in your own programs. It's on this month's MegaDisk. You can either include it as a library, like the example program, or include it directly in your program.

To load the message file and to initialise the library, use

```
PROCmsgtrans_init(filename$)
```

where *filename\$* is the filename of the messages file you want to load. If you are using it in an application, you should have set a system variable in your Run file similar to *App\$Dir* – where *App* is the name of your application – with a line like:

```
Set App$Dir <Obey$Dir>
```

If your message file is called *Messages* and is within the application directory, you would use:

```
PROCmsgtrans_init("<App$Dir>.Messages")
```

to initialise the library. When your application has quit,

```
Token : EG4
Value : This will match both EG3 and EG4

Token : H
Value : This is another bit of text

Token : zonk
Value : A value with a silly token

***** Now some tokens with substituted parameters

Token : SUB1
Value : parameter 0 = Zero

Token : SUB2
Value : parameter 0 = Zero, parameter 1 = One

Token : SUB3
Value : parameters are Zero, One, 2.3563

Token : SUB4
Value : parameters are Zero, One, 2.3563, 3

***** Finally, look what happens if we lookup a token
without providing enough parameters

Token : SUB4 (but only one parameter
Value : parameters are Zero, %1, %2, %3

Press SPACE or click mouse to continue
```

you should close the message file with:

```
PROCmsgtrans_final
```

To look up a value in your messages file, use one of the look-up functions provided. There are five to allow up to four parameters for substitution into the value to be given.

These functions all have the form *FNmsgtrans_lookupx(token\$, p0\$...)* where *x* is the number of parameters it takes, and there are that number of parameters after *token\$* in its arguments.

For example, to look-up a value with no substitution, use:

```
value$ = FNmsgtrans_lookup0(token$)
```

where *token\$* is the token you want to look up. To look up a token and substitute two parameters, use:

```
value$ = FNmsgtrans_lookup2(token$, p0$, p1$)
```

where *p0\$* and *p1\$* are the two parameters you want to substitute. As with calling the SWI direct, you can use *STR\$(number)* to substitute a number rather than a string, as in:

```
value$ = FNmsgtrans_lookup1(token$, STR$(p))
```

where *p* is the number you want to substitute.

Example program

On the MegaDisk, there's an example program which uses the library to retrieve messages from a messages file. You should run it using *RunExample* so that the program can find the message file.



Font Directory is the only font management application which contains a dedicated font filing system. All other programs work by simply swapping whole directories or moving font files from one folder into another.

Although writing and designing a font filing system has taken more time and effort, it offers some additional benefits...

- **More flexibility** – Individual fonts (not just families or directories) can be installed and removed. You can also organise your fonts into categories, families and weights.
- **Saves space** – By using directories which only take up 2K, the space used by your font collection can be reduced.
- **Kind to discs** – Unlike some systems, font availability is controlled in memory and not by moving font files on the disc. This saves a lot of unnecessary disc access and speeds up the availability of your fonts.
- **No limits** – Well, not exactly... you can store over 5900 font families! And you can make many of these fonts available at any one time – typically over 700 font families.
- **Network friendly** – A special version of the software is available for network users. This allows each station to have a personal view of a central collection of fonts stored on a file server.
- **Star commands** – If required, star commands are provided to allow you to specify which fonts should be made available.
- **RISC OS compliant** – It works with both RISC OS 2 & 3 and is desktop compliant. As registered developers, the calls and messages provided are officially recognised by Acorn.
- **Well documented** – It comes with a 32-page printed manual which includes both a primer and a detailed description of the facilities provided.
- **Reviewed** – Here's what the reviewers say:

RISC User, Jan/Feb '94: "This program provides the kind of facilities which should have been built into the operating system in the first place. It is very easy to use, and I find it utterly invaluable. Anyone who has more than a handful of fonts should buy it without delay. It is superbly presented, operates flawlessly, and has become a permanent addition to my iconbar."

Archive, Sept '93: "The real pièce de résistance is the facility to scan documents and files and install the fonts required automatically. This is a dream to use. I have always found it frustrating that Impression would simply replace all uninstalled fonts with Trinity without even giving the option to abort loading the document. Draw would replace unrecognised fonts with the system font. Now that is all a thing of the past."

I was very happy with Font Directory. I found it very easy to install and use with minimal reference to the manual... this is a highly intuitive application – a great deal of care and thought must have gone into its design and realisation. It integrates seamlessly with RISC OS and if you use a lot of fonts, you have to have Font Directory."

**LOOK
systems**

Font Directory

A font filing system

Hundreds of outline fonts are now available for the Archimedes and new fonts are being produced all the time. This is all very well, but it does mean that using and managing fonts is becoming increasingly difficult.

What is Font Directory?

Font Directory is a radical approach to storing and using outline fonts within the RISC OS desktop. At its heart is a dedicated font filing system which provides the user with an unparalleled level of control.

Easy-to-use

Using techniques pioneered by LOOKsystems, Font Directory allows you to install fonts at the click of a button without the having to restart your application.

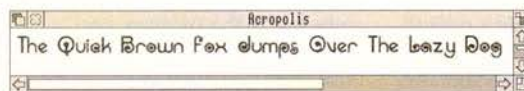
Just select the fonts in the FontList window and click on the 'tick' icon.

(If you wish, you can specify which fonts will be available on start-up and save favourite lists of fonts for later use.)



Font viewer

A preview window is available to help you decide which fonts you wish to install or just to remind you what a particular font looks like. If required, the text, size and colours used to display a font can be defined and even saved for later use.



Document scanning

The most powerful feature, however, has to be the ability to scan other applications' documents. When a document is dropped onto Font Directory, the fonts used will be made instantly available.



At last, no more 'font not found' errors!

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Font Directory does a lot more than we can explain on a single page and so we are offering you the opportunity to try the software for free.

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**LOOKsystems, 47 Goodhale Road, Bowthorpe, Norwich, NR5 9AY.
Telephone: (0603) 748253. Facsimile: (0603) 764011.**

A hard disc is recommended and you will need enough space to store all of your fonts. Most major applications and file formats are supported.

NOW anyone can start a PD library, but one of the most off-putting features must be the packaging. After all you want to keep the cost down, both of materials and your time.

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Demonstrably three dimensional

Since the 1980's, several films have featured 3D vision. The effect can be quite fantastic – depending on the technique used. The red/green glasses have the disadvantage that colour cannot be used, unlike polarised light.

This requires two projectors which polarise the beams of light 90 degrees apart. The glasses block out one of the beams by having polarised lenses. This is debatably the most effective method but it does allow full colour, however, most people don't have have polarised light projectors.

Eyes move independently to focus on an object. When an object is as far away as possible our eyes are near parallel – they point directly ahead and the line of sight converges a long distance away.

So, if you can convince your eyes that they are near parallel, they in turn will persuade your brain that the object is far away. Conversely, when an object is near your eyes swing inwards converging at a closer point.

Using the *3D Demo Creator* by Paul Mason you are about to *con* your eyes and brain. He uses red in

Bursting out all over

There's no limit to what you can do with PD software – Teri Paul reports

the left eye and blue in the right. The hardest part of creating a 3D image is finding the exact colour of each lens.

Luckily one of his programs draws a red circle in the centre of the screen. Place a lens over it and alter the colour – displayed as three figures at the top of the screen – using the keys as described.

When the circle appears as dark as possible in one lens, but is still bright in the other, note down the colour numbers and which lens it was visible in. Then repeat with the other lens.

Now try running some of the sample demos, or start to create your own. The better the quality of the monitor, the more amazing the effect. If you can see *ghosting* – seeing both lens colours – lines, try moving away from the screen.

Practice makes perfect

I am always a little suspicious of products which come with the *Easy* appendage. Taking my cynicism in hand, I booted Gary Lee's *EasyMode*

which only works with RISC OS 3 and NewLook but will go some way to putting you in the frame of working required by RISC OS 3.5 and the Risc PC.

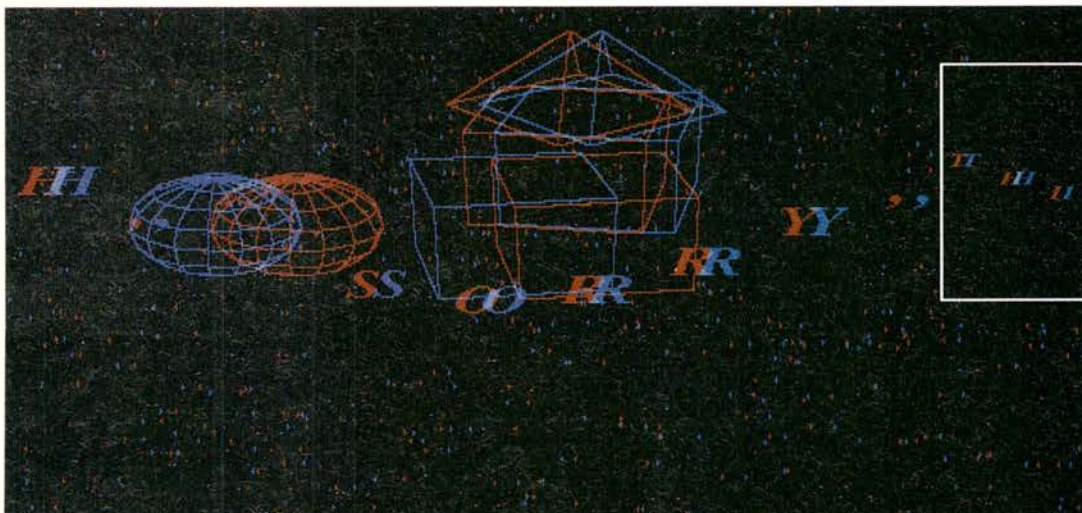
The idea behind *EasyMode* is to let you edit and create multiple screen mode extension modules. Okay, so if you don't know what a *mode extension module* is this is not for you.

But why not experiment anyway? After all, this is arguably the best way to learn and *EasyMode* is programmed well enough to allow you to try things out without doing any damage.

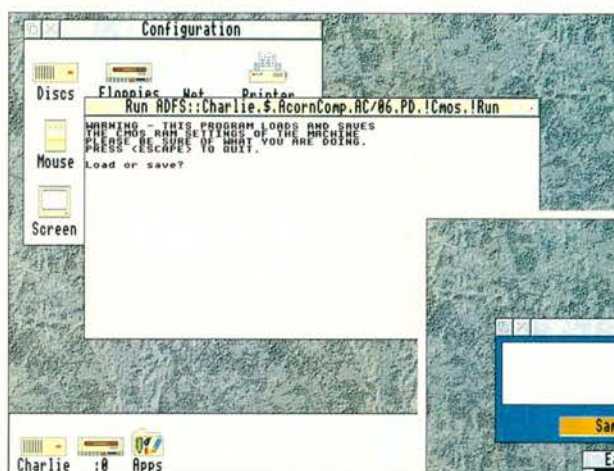
Assuming you can create a mode extension module from scratch – but want the parameters required laid out in easy to edit fashion and ready to be fine

Programs this month

Program	Company	Code
ShutDown	Headfirst PD	
EasyMode	Gem PD	GrGP03
EasySound	Gem PD	SMPU01
Cmos	Gem PD	UtMe01
3D Demo Creator	Subscription disk	

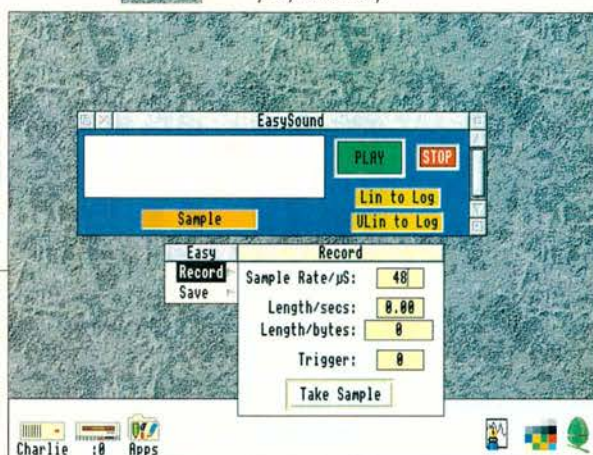


● You really need glasses to make the most of these screens



● Cmos or Configure – make your choice

● Just sample, play and stop



tuned – this is for you.

To quote Gary, "I felt that the high level approach of specifying only the screen width, height, eigen values and pixel rates was inadequate". The module will also cope with more than just one mode. *EasyMode* supports interactive help which I always find useful with a new program.

If you want to test your settings, click on *Try mode*, if you are met by chaos just press Escape. You can also see the immediate effect of the VIDC parameters alone, in the current mode, by clicking on *VIDC only*.

You can also see the VIDC changes in real-time by holding Shift down and clicking on the arrows. The display start/end values are also adjusted in real-time to keep in touch with the logical screen size and the mouse pointer will become relatively offset. Gary recommends you use *Try* mode from time to time.

A rough validation check on values is carried out as they are altered as

some can only be odd or even or a multiple of something. You can validate/evaluate any particular value by pressing Return on it – use Tab or cursors to move between icons if you don't want this to happen.

A module can be dragged into *EasyMode* to see if it can handle any screen modes itself. The information is extracted from the module by temporarily loading it into the RMA and repeatedly calling its service code handler, if it exists, directly with appropriate values. Modes are merged when loaded rather than replaced, but you can delete unwanted modes.

When you save, the modes which

have been added are used, but not the one being edited. If you load a module which wasn't created with *EasyMode*, ensure that it doesn't perform any other useful functions before overwriting it.

Some example modules are given

in the sub-directory ready to be dragged into *EasyMode* for editing, or you can just double-click and access Help to discover which modes they support.

Staying with *easy* programs and Gary, enter *EasySound*. All this does is play samples. There are no bells, no whistles, it just

does the job. However, the samples must be in logarithmic format to make them VIDC compatible so this is not for everyone.

Sometime useful

A small utility called *Cmos* landed on my desk. Now the Configure application in your Apps Directory will save these settings in case of corruption, change of the battery in the machine and so on.

This program does save/reset these more completely but is really a hangover from

RISC OS 2 and is definitely not one to be recommended if you don't know what you're doing – the Risc PC has a program like this supplied as a utility.

There are still a number of people with RISC OS 2 – though I would recommend upgrading – but there are programs which will let your machines at least *look* like a RISC OS 3 machine. One such is *ShutDown* from Gareth Boden.

The reason this program was written in the first place was because a school wanted a consistent way to close down their machine. This program emulates the ShutDown facility of RISC OS 3 with the extra *hot key* – Shift+Control+F12 – to quit all applications and clear the desktop apart from a restart window, parking your hard disk and closing all open files. Better than remembering to *dismount* each time.



● Imitation is the greatest form of flattery

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JJF PD, 49 Hollyberry Close, Winyates Green, Redditch, Worcester B98 0QT.
Masterdisc, 2 Seaview, Hoylake L47 2DD.

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Arcaynia, PO Box 1927, Sutton Coldfield B74 3QZ.
ArchAngel PD, PO Box 41, Exeter, Devon EX4 3EN.
Archimedes Fractal Group (AFG), 30 Bowen Drive, West Dulwich, London SE21 8PN.
ARM PD, 109 Woodland Drive, Cassiobury, Watford WD1 3DA.
ARMistic PDSL, 136 Wellesley Road, Ilford, Essex IG1 4LJ.
Craig Beech PD, 30 The Deerings, Harpenden, Herts AL5 2PE.
Datafile, 71 Anson Road, Locking, Weston-Super-Mare, Avon BS24 7DQ.
Datastream, 34 Norbreck Close, Great Sankey, Warrington, Cheshire WA5 2SX.
Different Ideas, Eyton House, Eyton, Leominster, Herefordshire HR6 0AG.
Digital Phenomena, 104 Manners Road, Southsea, Portsmouth, Hampshire PO4 0BG.

DigiTech, 20 Downing Crescent, Bottesford, Scunthorpe, South Humberside DN16 3LS.
Eureka PD, 78 Rawlinson Road, Southport, Merseyside PR9 9NE.
Gem PD, 15 Partridge Down, Oliver's Battery, Winchester, Hampshire SO22 4HL.
HeadFirst PD, 97 Chester Road, Southport PR9 7HH.
LowCost PD, 6 Furzeland House, Sheephouse Way, New Malden, Surrey KT3 5PH.
Moonlight Graphics, PO Box 3569, Cape Town 8000, South Africa.
Naked PD, Fayence, Fulford Road, Fulford, Stoke-on-Trent ST11 9QT.
Planet PD, 37 Manor Drive, Berrylands, Surbiton, Surrey KT5 8NF.
Skyfall, PO Box 2220, Birmingham B43 5RZ.
Swap It PD, 7 Salterns Terrace, Bideford EX39 4AG.
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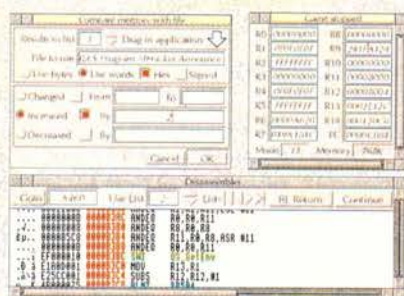
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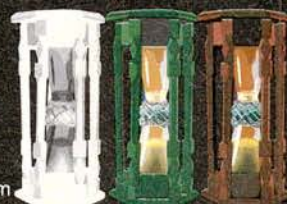
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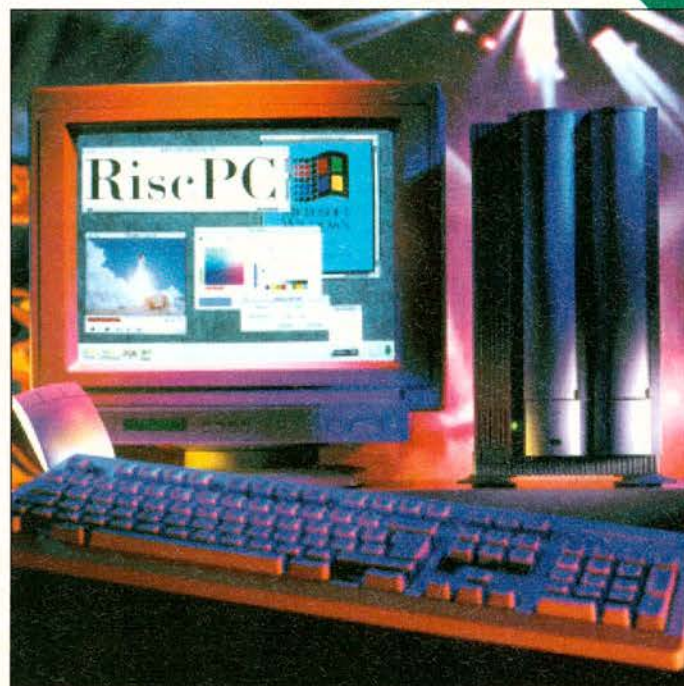
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The short list

Jo Giles takes a brief look at a series of utilities which want to make your life easier

The Tekkie Disk: Anoraknophobia

IF your shelves are straining under the combined weight of technical manuals and PRM's, take a look at the Emerald Publishing solution. You will need a CD-Rom drive but with these falling in price it will not be long before these are as widespread as hard disk drives.

One of the best aspects to *electronic publishing* is that you don't have to flick through hundreds of pages in the vague hope that you'll find that elusive technical illustration – instead you have search and browse facilities.

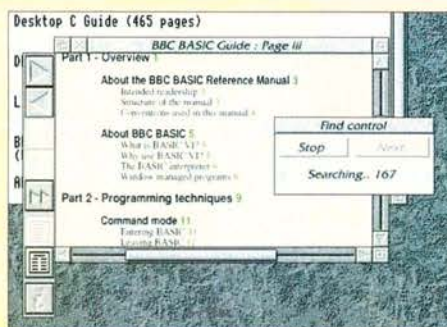
The disk presents you with RISC OS 3 Programmer's Reference Manuals, Acorn ANSI C Release 4,

Acorn Assembler Release 2, BBC Basic Reference Guide, Acorn Desktop Development Environment user manual and the RISC OS 3 Style Guide. Basically, the lot.

At first glance the page layouts are identical to the manuals – though the pictures are in colour. Should you want to find a particular reference, you can set a variety of parameters and these facilities are supplemented by *hot-links* which let you go from page to page looking up references.

As you'd expect from a multi-tasking computer, you can display more than one book or page on screen at once.

Not surprisingly, copyright restrictions mean that you can't print out the manuals – though there is some talk of implementing a one page only print facility – but you can make your notes



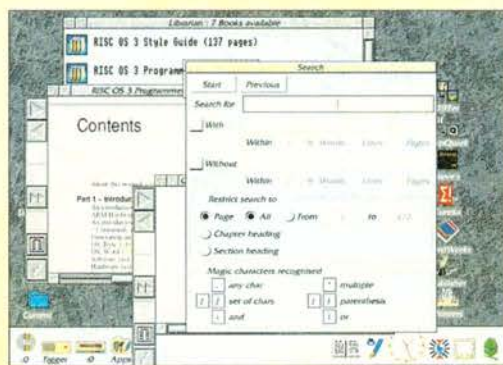
● Running the multi-tasking search

in the electronic margin which can be saved, loaded or compared with other users notes. Standard with this type of software are bookmarking and indexing on keywords.

The *Librarian* software makes this product and instant references don't come much quicker. If you use these manuals a lot, or are on a network where these would be of use, the Tekkie Disk is very good value for money and a great time saver. Emerald also promise a cheap upgrade path to future versions.

PRODUCT SPOTLIGHT

Price: £99
Supplier: Emerald Publishing, 166
Shelford Road, Trumpington,
Cambridge CB2 2NE.
Tel: 0223 840138



● Setting up a search on the Tekkie Disk

Draw_Changer: Affecting drawfiles

THIS program has a very straightforward aim in life – to change drawfile colours. You can change a drawfile to monochrome, make it negative or lighten, darken, tint, recolour one graduated fill, thicken only thin lines, change an object's attributes, create anti-aliased sprites larger than the memory of your machine, batch process and create thumbnail sprites.

Furthermore it utilises the OLE (object linking and embedding)

transfer system used in Impression Style and Publisher.

Well that's the theory, how about the practice? The program comes with an accessible manual and on-line help in the form of a ClearView file. Having pulled my hair out at times when wanting to edit a piece of

a drawfile, Draw_Changer seemed like a leap forward.

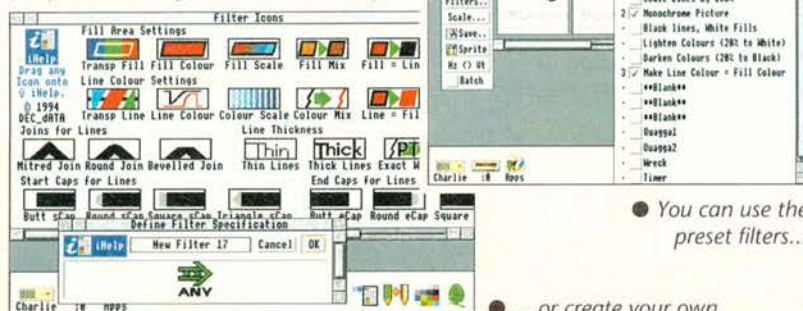
What I particularly like about this program was that it doesn't assume that you are born a DTP professional. You can use the program on two levels with a set of preset filters for basic changes which can be made easily, or the advanced way where you can edit, or create your own filters as you want.

The interface to setting your own filters is not the most intuitive in the world. But for many people this package will offer some of the facilities of ArtWorks without the price tag.

Draw_Changer is quick, will work on Archimedes and Risc PC machines and for the majority of non-professional DTP users will be a useful addition to their library.

PRODUCT SPOTLIGHT

Price: £34
Supplier: Dec_data, 60 Danes Road,
Exeter EX4 4LS.
Tel: 0392 221702
Requirements: RISC OS 3



● You can use the preset filters...

● ... or create your own

CD Fast: Speedy access

NOW that I've set my stall out that CD-Rom drives will be common to all machines in the coming year or so, let's take a look at an enhancement utility for those of you who have a CD-Rom already. This

is another utility which falls into the category of *transparent*. Just let it get on with it.

CDFast comes in two modes *Minimal Memory* and *Enhanced*. The former needs 8k of memory for both the code and the cache – ideal if memory is at a premium – while the *Enhanced* mode provides more intelligent caching algorithms,

although it still only takes up 32k.

What it will get on with is any CD-Rom drive and any version of CDFS, as it improves the performance of the drive under RISC OS and hence your applications.

Eesox report improvement rates of between 30 and 45 per cent. To quote their figures, using PhotoView to convert a 16 base PhotoCD image to a 256 colour sprite results in the following:

	Off	Minimum memory	Enhanced
Acorn MEU/Sony CDU-561	1098 secs	862.87secs	715.03 secs

That is an increase in performance of 22 and 35 per cent respectively.

The program loads in the usual

way, with a dialogue box telling you when CDFast is loaded and in which mode. You can now access your CD-Rom and CDFast will tweak the performance rates using its data caching algorithms.

That is basically all there is to it. You can also change the configuration between the two modes and these modes can be saved or cancelled which will revert you back to the last con-figured modes.

CDFast works, but you'll find that how well it performs

depends on your drive, computer and on the software you are running.

PRODUCT SPOTLIGHT

Price: £25

Supplier: Eesox, 5 Hillfield Road, Comberton, Cambs CB3 7DB.
Tel: 0223 264242

ImageBank: A window with a view

THE first thing you need to know about ImageBank is the theory behind JPEG (Joint Photographic Experts Group) files. This can be confusing, but in the simplest terms it is a compression system which removes what it considers to be unnecessary data as it archives,

for instance squeezing 10Mb of data on to one disk. It is also a format common to the majority of computer platforms.

JPEG is known as a lossy technique so the decompressed image is not identical to the original. What JPEG throws away is information which the human eye is not sensitive to.

You can control the amount of compression with a standard compression rate being 15:1 – ImageBank's default setting – where

you are unlikely to notice any difference between the original and decompressed image.

What is the ImageBank? Well ImageBank contains images compressed using JPEG in 24-bit format. It loads on the iconbar in the usual way and clicking on this displays a selection of compressed images, or you can drop a JPEG file on the ImageBank icon to view it.

Make sure you are in a 256 colour mode – Irlam recommend Mode 28 – and double-click on any of the thumbnail images which catch your eye.

The picture will load into Paint in a couple of seconds as it decompresses. Export support is for JPEG, 24-bit Clear, 256 colour

sprite as well as the new 15 and 32bpp sprites.

There is a cutdown version available in the Public Domain but the complete version of ImageBank lets you

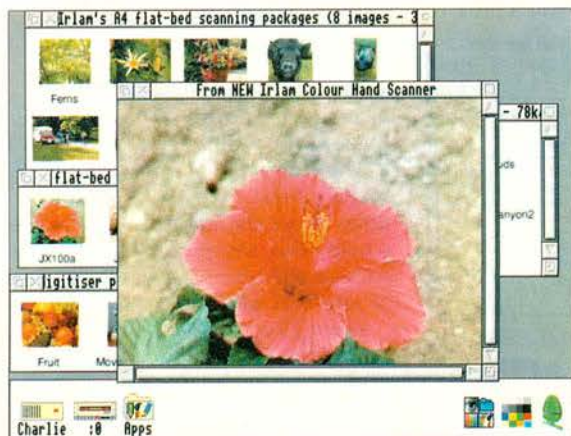


● ImageBank gives you information and a thumbnail image

add your own images and save them as 24-bit Clear files. The whole process is invisible. For instance, if you have a Clear file just drop it on to the directory display – ImageBank does the rest.

Textual descriptions can be saved with the images and can be accessed at any time, when you choose the full information option from the Browser, to check on copyright messages and the like. You can sort your images into subjects as files can be moved between directories in just the same way as you nest directories usually.

This is an ideal way of archiving images which can be used by other Acorn machines or machines on other platforms, and with the influx of 24-bit paint and processing packages about to enter the Acorn market ImageBank will be a necessary utility. If you have any problems there is always interactive help on-line.



● The decompressed image is clear and detailed

PRODUCT SPOTLIGHT

Price: £25

Supplier: Irlam Instruments, Brunel Institute for Bioengineering, Brunel University, Uxbridge, Middlesex UB8 3PH.
Tel: 0895 811401
Requirements: RISC OS 3.10 or higher

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ANYONE out there with access to an Amiga will recognise the title of the joint venture between French software house Delphine and Birmingham's own US Gold. I'm pleased to announce that this is indeed a conversion done by US Gold themselves.

Now US Gold are not technically new to the Acorn market – hands up anyone who remembers LeaderBoard? This golf simulation made a tentative appearance in the early Archimedes days but was never sold widely. However, with Acorn's encouragement, US Gold are testing the water seven years later with Flashback.

Flashback took about a year to make it to the Amiga and another year on we have it on the Acorn machines. There is no hype, it's just here and very



welcome it is too, with the French graphic artists living up to the style and panache performed on the Acorn machines by UBI Soft and Infogrames.

The plot? Well this is a pretty popular sci-fi scenario, with definite shades of Invasion of the Body Snatchers and The Invaders with a large side-



order of Running Man and Total Recall for good measure. For a quick resume...

Conrad B. Hart is a research scientist who – unbeknown to anyone else – has discovered that certain people in high positions have a high molecular density, revealing that they are ... aliens.

Now these chaps aren't about to let one boffin thwart their plans, so they whisk Dr Hart off to a high security insane asylum. Our hero is not one to lie down and die so he escapes, only to be shot from his hover bike and to find himself not on Earth but on the planet Titan. With me so far?

Okay, now this is where you come in as you must move our intrepid hero through a beautifully-crafted arcade adventure. What should such

games have? Well, ease of control, ultra-smooth movement and believable and usable gadgetry. Most important is that Holy Grail of all games – playability. How does Flashback score? In this humble reviewer's opinion, very

PRODUCT SPOTLIGHT

Price: TBA

Supplier: US Gold, Unit 2&3, Halford Way, Halford, Birmingham B6 7AX.
Tel: 021-356 3388

- Works on Archimedes range and Risc PC



Flash



high indeed.

Conrad's movement is VERY realistic, which is not surprising when you know that every move, fall, jump and bump was modelled on an acrobat doing the real thing. Such attention to detail shows and pays – details like bits of loose debris falling from a platform when Conrad lands on it.

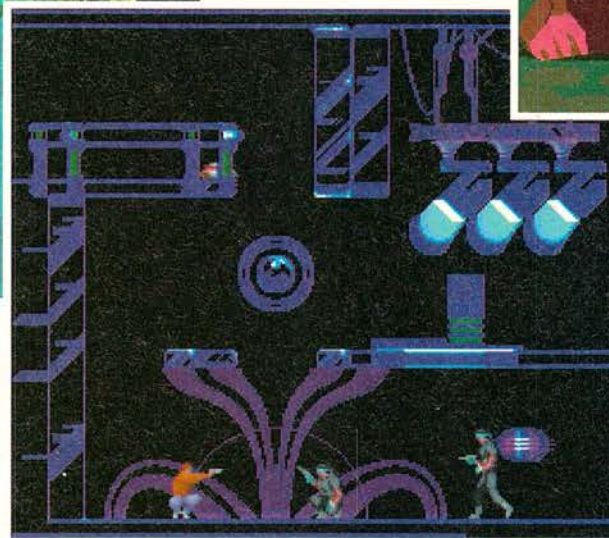
You can find your way through the forest in easy, normal or expert modes, which control how many nasties you'll come across and how they react to you.

There are puzzles to solve, machines to outwit, missions to accomplish and a TV game show to win to get a flight to Earth. From forests to industrial complexes, from TV studios, alien planets and spaceships you must never let your guard down.

Save frequently, as even in easy mode your reconstituting adversaries need your quick reflexes to defeat them – especially as you seem to spend the whole adventure running. Thank goodness for passwords.

I have a theory why conversions do well on the Acorn. It is not just that they are conversions but

You can try Flashback for yourself on this month's MegaDisk.



they are the cream from other markets. This means that there may not be the quantity of games from the likes of Millennium, Renegade and now US Gold but there is the quality.

Furthermore, Superior, Krisalis and Gamesware must take the credit for making it possible, as they believed



in you before the big boys and girls did.

Hungry as Acorn players are for the games popular on PC and Amiga, does Flashback live up to expectations? Yes. Should you buy it? Well, if you like quality graphics and sound – a CD of the soundtrack is available too – with easy to use controls and bags of gameplay, yes, most certainly.

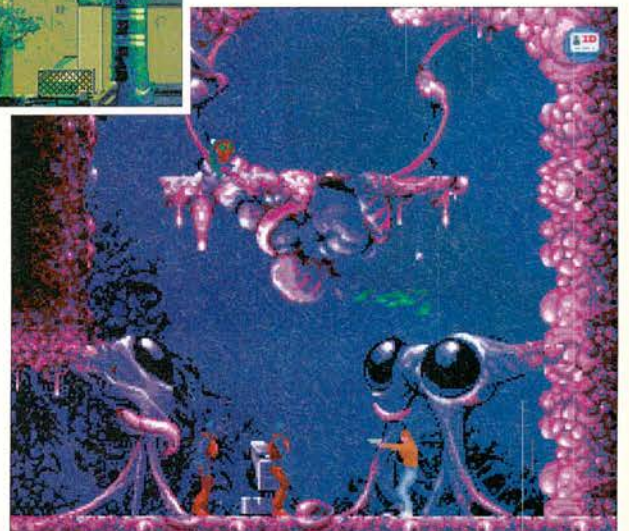
Teri Paul

Second opinion

I've been playing Flashback as well and it's totally brilliant. Okay, it's an arcade adventure ... and some of us remember Citadel on the 8-bit BBC Micro ... but really it's impossible to describe just how good Flashback actually is.

The character movement is tremendous, the little inserts of action when you pick things up or put them into energy generators – I was just totally blown away (literally as well as figuratively). Wow.

Lazarus



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TOM Cooper is not known for his subtle games – remember the caveman with the chain saw – and his love of gore is on full view in *Hamsters*. Now this game is not for everyone, especially not if you're squeamish.

We are not talking people here, but a cartoon hamster who has been expelled from his home planet with the instructions not to return until he has conquered a planet.

A humorous sequence shows his departure and discovery of a certain blue and white planet. His first curious contact is a fluffy bunny – choruses of Ahhh please – should he blow it away with his laser? No, hit it with a mallet instead.

Over 80 passworded levels, you must batter cute bunnies, butterflies and cats which turn into much coveted lollies, diamonds and chocolate buns. Road signs will give you bonuses and directions.

As always it is the little things which make a game, such as sun glasses when Hammy explores the great outdoors and the way that the flowers get battered just like everything else. The tortoise stands up best as you'd imagine.

The controls are simple – left, right and hit. Hit nothing and the sheer force of the impact of your massive hammer will catapult you up on to more platforms of the time-controlled levels. The more you hold down the hammer the bigger the jump.

This is very useful as you'll soon discover water. I don't know if alien hamsters can swim, but they certainly can't with hammers in tow. Watch out for carefully positioned spring boards which can work for and against you just as well.

Hamsters is very cleverly programmed and though I did explore the gore, I copped out and went back to the control menu and took down the blood option from *buckets*, to *lots*, *some* and *nintendo* levels.

The option screen will also let you enter the passwords, set the scenery to full, high or low and alter the wibble factor and text messages which appear from time to time and can be both useful and irritating.

If you enjoyed *Dinosaw* you'll like *Hamsters*. The gameplay is simple to understand and master and is a challenge between you and computer-controlled cuteness.

But why should I feel so mean about battering a Garfield look-a-like, especially considering what he did to Odie? And why is squashing a relative of Bugs Bunny so much worse than eliminating thousands of space invaders with laser cannons? Is this the same hypocrisy which has spawned *collateral damage* and *friendly fire*?

But the nice things about compilations is that there are other games to play. One of the *oldies* in this batch is *Blowpipe* which was released by the Serial Port in

● *Hamsters: Loads of blood courtesy of a cool furry alien*



● *Quiz Master: Pit your wits*

Zodiac Collection: Aries

...out of the cage and running wild

1991. This is a horizontal shoot-'em-up with sound, graphics and action.

As well as blowing away everything in sight with lasers and smart bombs, you need to watch those shields and defeat the big nasty at the end of each level. It's lucky for you that there are trading posts halfway through and at the end of each level. You never know they might have some gimmicks to give you that tactical edge. Smooth, with nice features and good control, it's the best put together game in this bunch.

If you require a little cerebral challenge there is *Quiz Master*. I like quiz games and looked forward to seeing this new member of the club. The format comes in four rounds and you can have up to four players. Round one is general knowledge – though the questions reappear in other categories – and for each wrong answer you lose one of your three lives. You have six seconds to answer.

The next round is a specialist one with a selection of topics to choose from. This

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● *Archimedes range only, not Risc PC*

● *Blowpipe: The oldest of the collection, but my favourite*



leads into the third round which is a matter of first to the keypad getting the question to answer. The final round is of the *question or nominate* type. Again you have three lives and play continues until all lives are lost.

My only real niggle is the irritating acknowledgements to your answers. Now I happen to *know* which king was called Longshanks, it was not a *good guess*. And I doubt if most grandmothers would know Morrissey's first hit. I realise that you have to make some sort of acknowledgement, but there are plenty of neutral ones and other quizzes have hit the right balance.

Finally there is *Square Root*. Similar in concept to the exceedingly popular Tetris-like games, this one never really hit the big time when Computer Eyes released it in 1991, and I think the reason is that it is difficult to get into.

The learning curve is quite steep but the idea is to fill shapes with other shapes which can be rotated and manoeuvred into position. There are bonuses and sometimes you'll find yourself jumping to the next level.

There are areas you can overlap on to, so fits don't have to be exact, but that time limit is too testing. The manual challenges me to find out what to do with the pieces to complete each level.

If the earlier levels were easier I'm sure I'd get hooked, but as it is it's not going to oust Merlin's *Tertis* and *Colour Tetris* from my hall of fame.

As a whole the first Zodiac compilation can be summed up in the phrase *curate's egg* – good in parts.

Pam Turnbull

Magnetoids

...asteroids with attitude

THE year is 2156, and you're stationed on a scientific outpost at the edge of the known universe, scanning the skies for signs of extraterrestrial life. Unexpectedly, contact is made and an alien fleet approaches the base, dragging an unidentifiable object in tow. A research vessel is launched to greet the new arrivals but it is wrenched from its course and crashes into the huge monolith.

Shaken by this tragedy, the scientists decide that attack is the only solution and rig up a ship with lasers and shields. You're the pilot and it's up to you to protect the base and drive the aliens away.

Oregon's latest game is a three-dimensional vector graphics shoot-em-up based on the arcade classic Meteors – however, there is one important difference. The asteroids in this game are attracted towards anything around them, including your ship. If you don't keep moving, you end up with a Magnetoid between the eyes.

Each level, you have a quota of objects to destroy, ranging from your average giant asteroid to transport vessels which spew out attack fighters when shot. The remaining objects in that quadrant are displayed at the top of the screen, along with the ship's energy and status.

In order to activate the other defence systems of your ship, you must collect energy pods left behind in the aftermath of battle. These pods don't appear often, so make the most of them.

These defence systems are mostly undocumented – you'll have to play the

game to find out what they are – but the missile system can get you out of some tight spots. It's best to save them for the fighter craft, giving you more time to concentrate on picking off the rocks flying in your direction.

The packaging is a little flimsy but the game itself looks professional and plays well. Magnetoids has been designed to give hours of arcade action, so don't

PRODUCT SPOTLIGHT

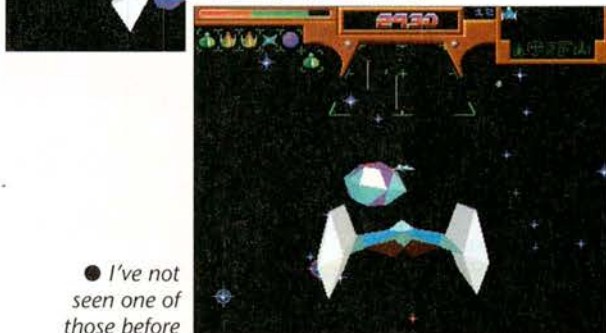
Price: TBA

Supplier: Oregon, 36 Grosvenor Avenue, Streetly, Sutton Coldfield B74 3PE.

Tel: 021-353 6044



● Well, that's one less to worry about



● I've not seen one of those before

worry about complicated gameplay – just keep that trigger pumping.

Control is via the keyboard, joystick or mouse, and each control mechanism provides a slightly different feel. Acorn and RTFM joysticks are supported – however, the thrust and missile lock keys are still on the keyboard, so they're of limited use.

I'm torn between keyboard and mouse, and in terms of manoeuvrability they're about the same. Unfortunately, there is a key clash on the first set of keys which can end your game rather suddenly, but there's another set modelled on the keys for Elite.

During the game you view your craft from behind, and there is a radar scanner displaying the positions of the ships and asteroids. The scanner is incredibly important and you must use it continuously if you want to avoid any collisions. The best way of destroying the asteroids is to let them fly past you, then spin round and attack them from behind.

The frame rate is impressive and play rarely becomes sluggish, even on an ARM 250. If you have a fast machine, Magnetoids will use the extra processor power available to increase the smoothness of the animation.

The graphics have some very nice touches – banks of stars slide past as you rotate the ship, and enemy laser fire scorches its way across your vision. The sound and music are superb and if you have a hi-fi system, it would be worth connecting your machine up to heighten the atmosphere.

Magnetoids is fast and addictive but by no means easy. You've got a long voyage of discovery ahead, and you'll need quick wits and fast reflexes to survive. It's games like this that separate the great from the good – the games user from the games player. Now, where's that cheat mode?

Hal

Caves of Confusion

IT IS good to see professionally put together budget games. The title and loading sequences of Caves are well constructed and I like the fact that 1Mb, 2Mb+ and ARM 250 people are well provided for.

Now Caves is simply a sideways

PRODUCT SPOTLIGHT

Price: £6.99

Supplier: Geoff Holland, 2 Whitecliff Gardens, Blandford Forum, Dorset DT11 7BU.

Tel: 0258 452507

● Works on Archimedes range only

scrolling shoot-'em-up. Simply traverse the caves without hitting any obstacles, baddies or walls and you'll be fine. But this game is not easy to play and requires fast reactions which become positively manic as you progress through the four levels.

Now, I tried playing this with the keyboard and I died quite rapidly. This type of game is well-suited to a joystick and Geoff has built in a module for anyone with Leading Edge's joystick interface.

There is sound, effects and a high score

...budget shoot out



● ...one life down and a few quick moves should see me through

table – indeed everything you'd expect of this type of game. The gameplay is not up to Blowpipe perhaps, but for the money it is a well constructed and produced addition to anyone's budget collection.

Teri Paul

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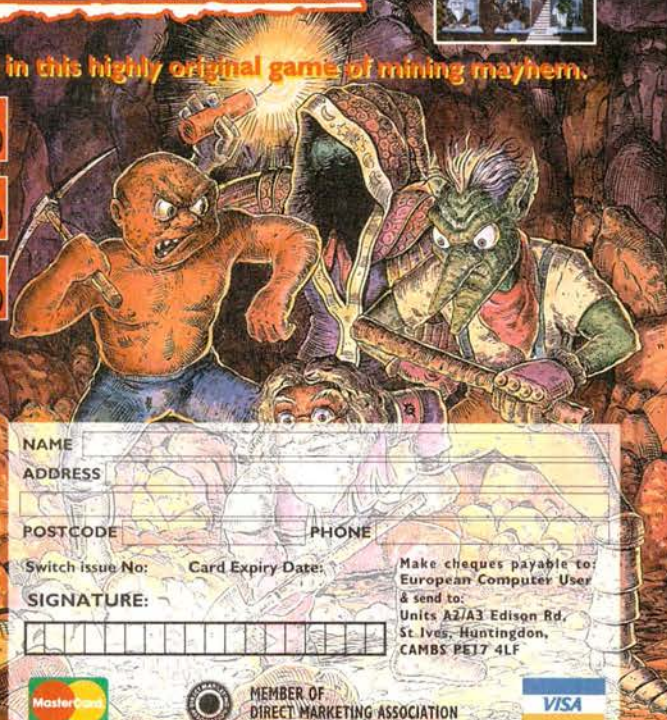
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The Scrabble player

...a word in your micro

I HAVE always thought that Scrabble could be successfully converted into an enjoyable computer game. The Scrabble Player is the conversion and I'm surprised its taken so long for a commercially available computer version to turn up.

I'm assuming here that everyone is fully conversant with the rules of the board game and, from what I've seen, this software incorporates them all. The Scrabble Player also includes many additional features not available to players of the board game, the best being the facility for solo players to compete against the computer.

Once the game is up and running you can opt for a two, three or four player game with any or all of the players' turns being taken by the computer.

The skill-level of each of the computer players can be set – pathetic A with a vocabulary of just 2,422 words through to impossible L which gives it access to over 134,000 words.

The highest three levels of skill also employ strategic moves, such as placing words in positions which prevent other players gaining access to triple word score squares.

I was mildly disappointed that the strategy option could not be selected separately, as I found the jump in difficulty between levels I and J to be very large.

Out of curiosity, I set up a game with all four players being run by the computers set at level L. The game took less than 30 seconds to complete on an ARM2 machine and about 10 seconds on a Risc PC, with such well-known words as *yoginis*, *forzandi*, *slod*

and *pingo* turning up.

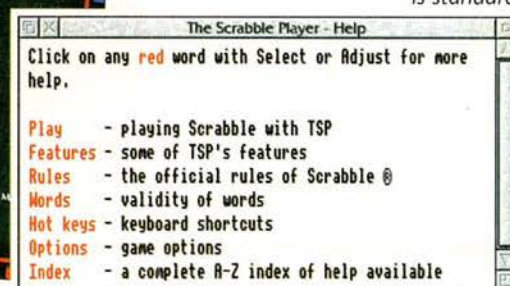
Player four won with 253 points, just one more than player two. Poor old player three came in last with a meagre 131 points. It's nice to see I'm not the only one who gets stuck with a Q and no U.

You can choose between playing friendly practice sessions or fully competitive games. There are several clear differences between them, for instance, only practice games allow you access to the useful – perhaps too useful – hints facility, which enables you to search out the highest scoring combinations of the letters in your rack and shows you the best place to position them on the board. The level of the hints facility can also be set.

You can select the time limit to either



● Interactive on-screen help is standard



PRODUCT SPOTLIGHT

Price: TBA
Supplier: US Gold, Unit 2&3, Halford Way, Halford, Birmingham B6 7AX.
Tel: 021-356 3388

five, ten, 15 or 25 minutes. The players are each allocated the set amount of time to play all their moves and the player's clock counts down while the move is being considered and made.

As soon as the move is made, the clock stops and the next players begins to count down. Thankfully, the game does not end when a player's time is up. Instead, the player loses points at the end depending on the amount of time they over-ran.

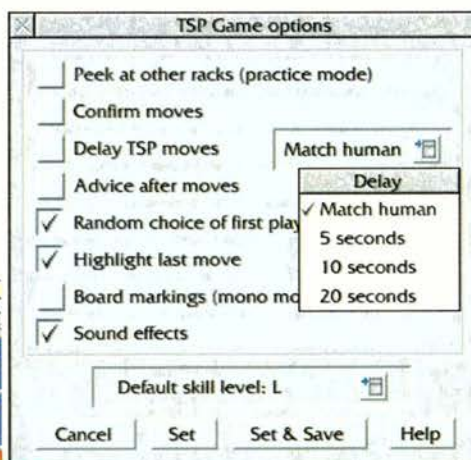
The game board appears on screen in a separate window and is colourful and yet very clear. Thankfully, the traditional Scrabble colour scheme has been strictly adhered to.

Also in this window is a Help facility with plenty of useful information on how to play the game properly. It even contains a list of every acceptable two letter word.

If I was asked to sum up what I thought of the game, I would simply say that on the evening I first got hold of the software I spent about an hour checking through all the facilities available and then settled down to play a few games.

I finally stopped playing when I realised I could hear the dawn chorus and it's a very long time since I last lost a night's sleep playing a computer game.

Rob Donaldson



● The options are plentiful and comprehensive



● Compete at level 2? I wouldn't even try

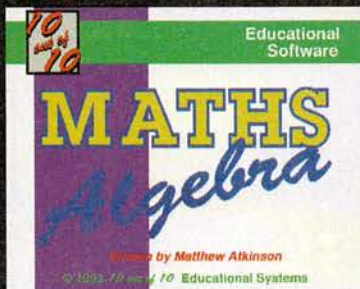
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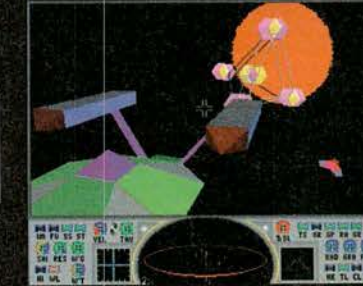
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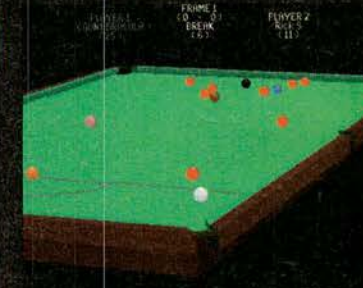
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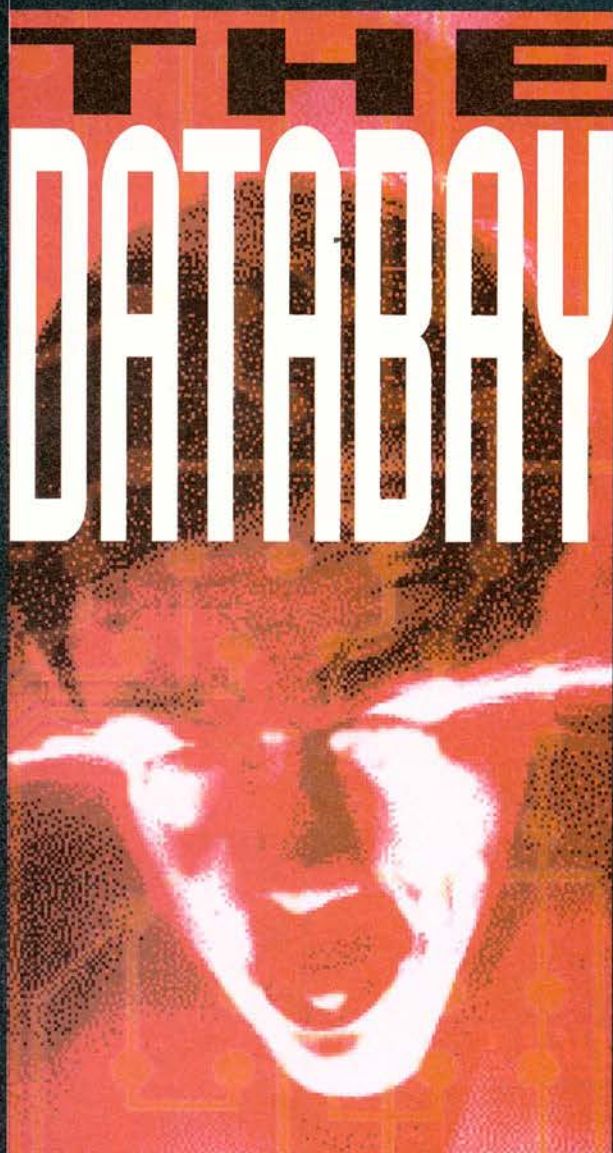
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Wind down the windows as the games world gets hotter



● Fill up with High Octane and cut those corners



● A PC classic makes its way to the Acorn



venturing aboard with Flashback and Scrabble. Flashback II is under discussion with Delphine, so if

the original does well you never know...

Game news



If you've seen any of the tabletop racing games available, such as Micro Machines, you may be interested to learn that Frank Isidor of Fry Up Productions has been working on a conversion of a public domain game called *High Octane*. You view the action from above and can choose to play in single-player full screen mode or pick a split-screen head-to-head duel.

The scrolling and the animation of the cars is smooth, fast and faultless – the Acorn version runs twice as fast as on an Amiga 1200 with fast ram, and that's using a humble ARM 2.

The graphics are detailed and clear, and the finished game promises to be a great deal of fun. I'll keep you posted on its progress, and the final version may even make its way on to the Megadisk.

Frank is also working on a conversion of *Wolfenstein 3D*, the three dimensional blast-em-away game on the PC. He's obviously a man who likes to do things by halves – this version of *Wolfenstein* has a split screen option as well.

Hopefully, the final game will run at about 30 frames per second on an ARM 3. It's perhaps not the gentlest game on the market, but if you're feeling frustrated or stressed, then this is the game for you. Watch out for more news here in the Databay.

Stunt Editor 2000



Liam Gretton's program allows you to edit the driver files created by Stunt Racer 2000. Once you have loaded StuntEd, open the Drivers directory on the second disk and drag a file to its icon on the icon bar.

After a frantic session of customisation, clicking on the Save icon will update your chosen driver file, and you can then crash into your favourite obstacle at vastly increased velocities.

This won't fit on the MegaDisk but if you send me a formatted disk and SAE I'll put it on for you.

Hints and tips



If you're being beaten by *Citadel II*, then this cheat from Steve Hanson of Superior Software should improve your odds. While the game is loading, type in CLARE at the title screen and listen for the beep. Once you hear that, you will have infinite energy and your prospects will be a little brighter.

Thanks to Alex Card, Daniel Cockerham, and Adam Jackman who have sent in the *Lemmings II* levels cheat, mentioned in the last Databay.

Adam also has a piece of advice for owners of 2Mb machines with a high density drive – it is possible to create a single disk version of *Lemmings II* by installing just the first and third disks on to a 1.6Mb floppy. The second disk isn't needed because it contains the enhanced sound effects for machines with 4Mb of memory.

Christopher Abey has written in to ask for help with *Chuck Rock*, and Chris Steedman has the answer – while Chuck's band is playing, type in ERMINTRUDE to become invincible. If you type in PINKYANDPERKY, you can fly away from trouble by pressing F while the game is playing. If

you're troubled by Acorn's standard screen blanker suddenly increasing the skill level of a game, try using the star command *BlankTime 0. This temporarily switches off the screen blanker without disturbing its configuration, so a simple reset will restore it to full working order.

Escaping the Exile



It's taken rather longer than I expected, but I can finally continue serialising the hugely detailed solution by Dan Doran, Peter Tillotson and Kevin Rooney.

Due to its sheer size, I will be publishing an abridged version, since the unadulterated text would take about a year to get through. I have also spent some time translating Dan's large map into a drawfile, so if you have access to an Acorn machine you can plan your routes with ease.

To recap, if you followed the first part of the solution many moons ago, you should have just fed some blue monkeys with wasps to receive four power pods. From there, wake the birds in Drey Tunnel and use them to protect you as you collect the pass from the wasp-infested Honeycomb Cave.

Go back to Orotund Cave and open the door with the RCD. A robot will emerge, spitting bullets in all directions. You can either run away and lose it in the maze of caves, or you can deal with the matter more directly and blow it up with a grenade.

Enter the cave and collect the pistol. The button there activates the nearby transporter. Step into it and fly up to the top of Rune Cavern avoiding the vicious birds. Pick up the pass as you are blown along the ground. Now open the capsule attached to the Pericles and take the grenades.

Return to the first nest of lightning balls that you saw, and



● Troubled by Triax? Get your own back, courtesy of Dan Doran

kill any that remain. Open the door by the nest and use a grenade to despatch the robot within. Move the pink table away by standing on it and shooting its edge, drop the urn down the secret passage and follow it, flying upwards towards the transporters.

Beneath these lurk more lightning balls and a robot, so it's time for some more target practice. Once you're on your own, aim at the icer on the ledge and shoot it into the transporter on the right, making sure the button remains in the out position. Remember your position and enter the right transporter. Collect your icer and teleport out again – those birds aren't friendly.

Shoot the button so that it's pushed in, pick up the urn and enter the left transporter, which will take you to the cavern of Sarawak. Watch out for the burger behind you, and when the lightning balls attack, fly up a little so you can attack them from above. Remember a couple of positions here.

Pick up the pass and fly with the urn across the wind tunnel into the lower of the two corridors, Behemoth Tunnel. A door will close just before you reach it.

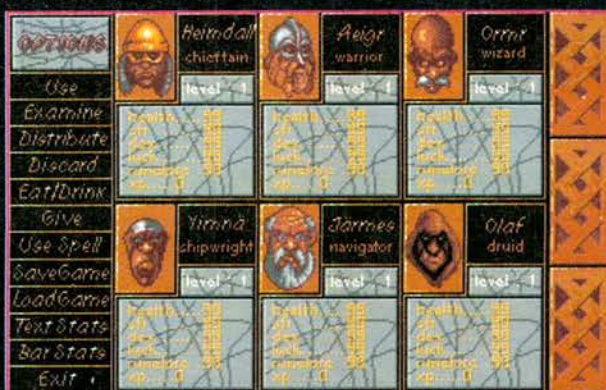
Drop the urn and teleport out. Fly into the corridor above Behemoth and drop your RCD at the end of it – there is a touch sensitive pad here which will open the door below.

That's where I'll leave it for this time – there's a stash of energy pods nearby so you can search for those if you're running a bit low.

Transmission complete



Thanks for all your contributions – if you have any cheats, hints or tips to share, please send them in. There will be more of Dan's solution in the next Databay, along with the usual information and the hot games gossip, so I'll see you then.



● Check the Megadisk for this Heimdall cheat

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That's a bit saucy

Mike Cook
shakes it about a
little, then a lot

“SHAKE oh shake the sauce
bottle, none'll come and then a
lot'll!”... Ogden Nash

Even if you've never heard Ogden Nash's verse before you will know that one of the most difficult operations in life is getting the right amount of sauce out of the bottle.

Nevertheless, practising with real sauce is a little messy to say the least, so this month's Body Building is a sauce bottle simulator so that you can play *The Great Sauce Bottle Game!*

The idea is that you have two sauce bottles connected to your computer and two players vie with one another to try and empty it. It's another idea for a computer game that goes down well at summer fêtes.

The heart of the sauce simulator is a mercury-tilt switch, which is shown in Figure I. When it is tilted, the mercury moves over to one end and forms a circuit between the two

wires. If you get a bottle of sauce that comes in plastic bottles you can make quite a good simulator.

What you do is drill small holes into the bottle top and then push a twin wire through. Then you need to attach the mercury switch and screw the bottle top on. In this way the switch is hidden inside the bottle with wires coming from the top.

You need to use thin flexible wire and not the solid core type so that the movement of the bottle is not restricted. One good source of wire is to use two strands of ribbon cable wire, another is to use two strands of wire from a multi-stranded cable.

Now we need to connect this system to our computer, and a number of techniques will do equally as well. What we want to do is not to sense the logic level of the mercury switch but to sense the changes in logic level – this is known technically as edge

detection. Each shake will rattle the mercury about and change the logic state of the switch.

So any form of input will do, from I²C to User Port. However, I wanted to make the project self-contained so I chose to use the printer port. Now, on some computers this is an output only but this doesn't matter because each printer port has two inputs for handshaking.

The mercury switch needs a pull-up resistor to five volts, fortunately we can supply this from the output pins of the port. The arrangement is shown in Figure II.

I found it best to mount the pull-up resistors inside the case of the printer port plug. Construction is really simple but for beginners I have shown the practical layout of the circuit in Figure III.

Now on to the software. Acorn computers consist of

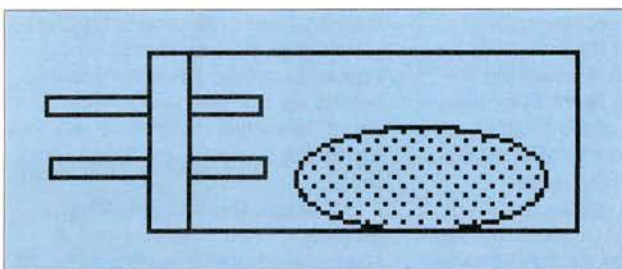
two basic types of hardware, as far as the printer port is concerned. There is the bi-directional printer port on the A30X0, A4000, A5000 series and Risc PC as well as the A500.

All the other variations – A3000, A300 and A400 series – have an output-only port for the printer and we have to access this directly by its hardware address. This is a bit tricky as the operating system does not let you alter addresses in this region, so we need a machine code program to trick the operating system. On the other hand, by using the new bi-directional port we can simply use

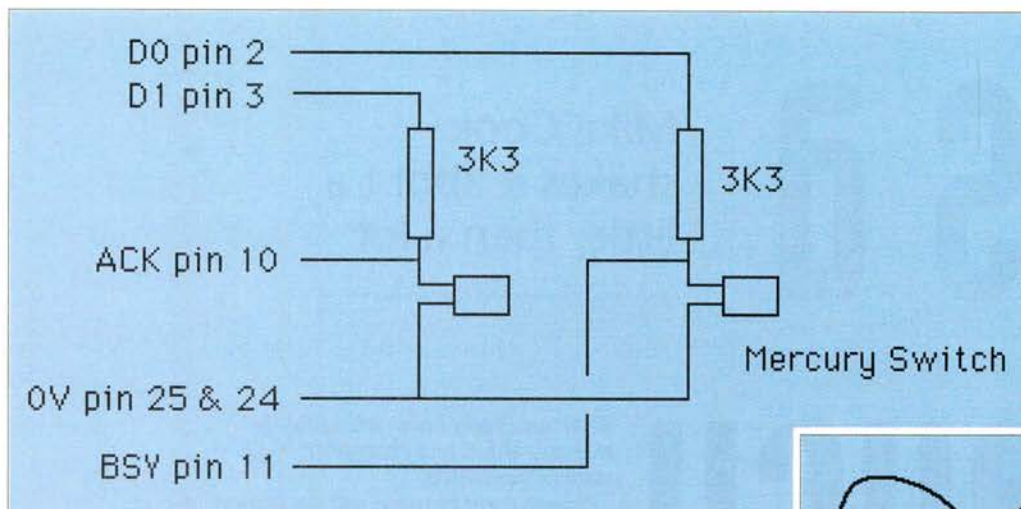
Warning

Mercury is safe in a sealed container like these switches and thermometers. However, never try to open the switches by sawing them in two or crushing them in a vice.

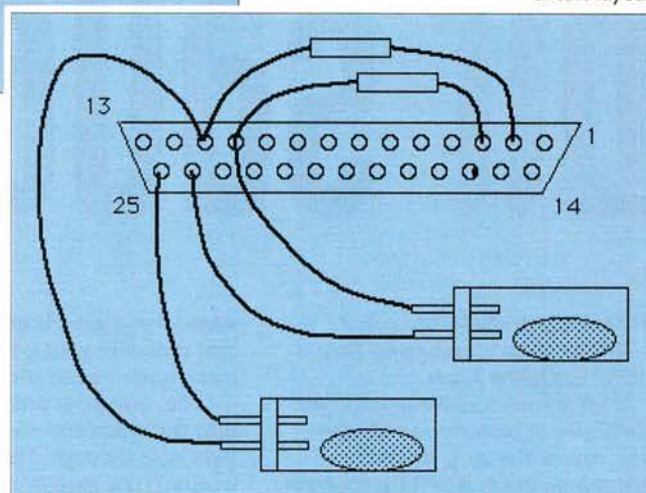
Mercury is poisonous, even touching it with your bare hands can cause small amounts to be absorbed into the bloodstream. Mercury gives off vapour which is also poisonous so keep it safe inside the switch.



● Fig I: A mercury switch



● Fig II: The circuit of the sauce bottle simulator



● Fig III: The practical circuit layout

the appropriate system calls.

To make the software really clever it can decide what type of hardware you have. Let's see how this is done. Now there isn't a machine with a bi-directional port that hasn't got RISC

OS 3 and that operating system will tell you the address of the printer port.

Therefore, it stands to reason that if the operating system gives an *SWI unknown* error when making this call it is RISC OS 2 and so we have a single direction port at base address &3250000.

If this call returns a null value for the printer port address then we have a machine that has been

upgraded to RISC OS 3 and therefore has the old printer port. If the call gives you an address then we know it is a bi-directional port and can use the system calls to read and write to the

hardware. All this needs to be done at the start of the program and sets up a variable to tell us what routine to use to read our sauce bottles.

Reading from the new hardware is quite simple. The two bits we are interested in are returned as bits 6 and 7 from the *Parallel_Op* call. Note that the ACK signal is inverted and so we have to re-invert it with an Exclusive OR command. We also shift the bits to positions 0 and 1 and store it in a memory location.

Now, if we are reading the old hardware things are slightly trickier. The BUSY signal is on bit 0 with an offset of &10 of the printer port address and the ACK is on bit 5 with an offset of &00.

Therefore, our machine code program has to get these two bits and merge them together, inverting the ACK before storing them in memory. After that the rest of the program just looks at the memory location and works things out from there.

As I said before, we are not interested in the logic levels but the edges, so each time we read the state of the switch we have to remember

it and indicate a shake only if the state changes.

Finally, when we detect a shake we have to decrement a shake counter for each player and update the graphics. The relationship between the number of shakes and the graphics can be set by a variable and altered to suit the required length of the contest.

If you want to extend the project, how about timing the interval between each shake. Then you only award a successful shake if the time is within a certain limit of the previous one. In this way you not only have to shake quickly but consistently.

Of course there is nothing stopping you from modifying the software to work from any other type of interface. Also, my sauce bottles are not that good. How about drawing a really good one as a sprite and having the program use that.

As always, the Body Building projects are just a starting point. Have a saucy time! See you next month.

Program

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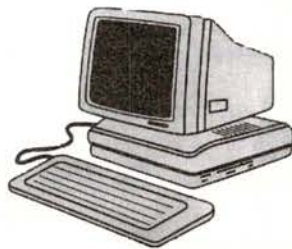
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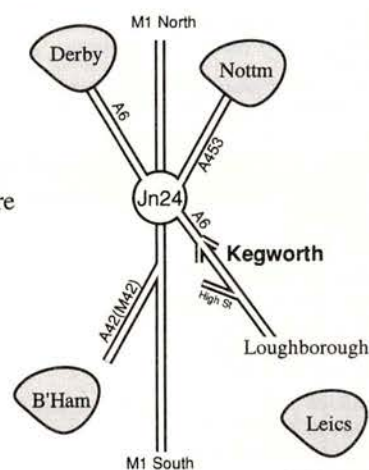
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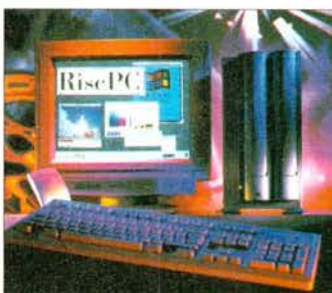
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- Scanlight 256 uPodule £229
- PSU Kit for Ultimate Exp. £30

(please call for pricing of above cards with IDE hard drives fitted)

Graphics Cards

- Colour Card Gold £239
- Chroma 500 Genlock card £419
- Chroma 150 PAL Encoder £169
- Chroma Genlock card £209
- Hawk V8 MKII Digitiser £189
- Eagle M2 Multimedia card £319
- Vision Colour Digitiser £99
- HiVision Colour Digitiser £149

Scanners

- Spectra Colour Handscanner £549
- Scanlight 256 - A300/400 £188
- Scanlight 256 - A3000 £198
- Scanlight Professional £549
- Scanlight Video 256 £199

Networking

- Ethernet card - A300/400 £139
- Ethernet card - A3000 £189
- Econet Module - A300/400 £49
- Econet Module - A3020 £49
- Econet Module - A4 £49
- Econet Interface - RiscPC £49
- Ethernet III card £149
- Ethernet interface - RiscPC £99
- Acorn Access - A3000 £145
- Acorn Access - A3020 £145
- Acorn Access - A5000 £145
- Acorn Access - RiscPC £119
- AUN/Level 4 Fileserver £369
- TCP/IP Protocol suite £199

Miscellaneous

- Floating Point Accelerator £99
- 386 1Mb PC Card - A3020 £225
- 486 4Mb PC Card - A3020 £420
- MIDI Expansion card £65
- MEMC1A Upgrade £29
- 4 Podule Backplane £22
- Fan for Backplane £7
- PowerPad Single joypad £25
- PowerPad Dual joypad £34
- Arc to BBC Serial Link £16
- Microlin FX Modem/Software £199
- Archi 906 Tablet (OS 2 only) £105
- Archi 1212 Tablet (OS 2 only) £199

Archi Cordless Mouse

No more tangled mouse cables when you use the Archi Cordless Mouse.

- High resolution 200dpi
 - Auto power off after 20 minutes.
- only £29

Multimedia & CD-ROM

Cumana CD-ROM Drives

Enter the world of Multimedia on the Arc with the Cumana range of CD-ROM drives and accessories.

- 300 Series - low cost drive
- 300 CD-ROM Drive/Interface £339
- 300 CD-ROM Pack 1 £424
- 300 CD-ROM Pack 2 £509
- 300 SLCD Interface only £89

600 Series - SCSI drive

- 600 CD-ROM Drive only £424
- 600 CD-ROM Drive/Interface £509
- 600 CD-ROM Pack 3 £594
- 600 CD-ROM Pack 4 £680

(CD-ROM Packs include Drive, Interface Cables, Stereo Speakers and some CDs)

Pioneer Multi-Disc CD ROM Drive

- A new range of SCSI CD-ROM drives which accept 6 discs at the same time.
- DRM602X Dual Speed CD drive £499
- DRM604X Quad Speed CD drive £999

Acorn Multimedia Expansion

The ideal CD-ROM expansion system for the Archimedes. Styled to match the A4000 and A5000 this unit will fit neatly on top. Supplied with 8-bit or 16-bit SCSI card and cables.

- Multimedia Expansion £485
- Multimedia Expansion - 16 bit £585
- Multimedia Expansion - 8 bit £565

HCCS Ultimate CD-ROM Drive

A dual speed CD-ROM drive supplied complete with interface.

- Ultimate CD-ROM for A300/A400 £289
- Ultimate CD-ROM for A3000 £289
- Ultimate CD-ROM for Ultimate Exp. £289

Aries RISC PC CD-ROM Drive

The ideal CD ROM drive for the RISC PC. Based on the Toshiba 4101 Drive. The kit is internal fixing. Available with or without SCSI card.

- RISC PC CD ROM Drive/Interface £279
- RISC PC CD ROM Drive only £149

CD ROM Software

- Artworks £129
- Artworks Clip Art £18
- British Birds £150
- Castles £40
- Countries of the World £40
- CD - 4 Disc Set £149
- CD Francais £120
- Creepy Crawlies £90
- Dictionary of Living World £175
- Dinosaurs £124
- Frontier 2000 CD £125
- Grooves £90
- Hutchinson Multimedia Encyclopaedia £49
- Illustrated Holy Bible £23
- Illustrated Shakespeare £23
- Image Warehouse £53
- Revelation II £98
- Sherlock Holmes £23
- Space Encyclopaedia £57
- Really Useful CD v1 £47
- Really Useful CD v2 £47
- Times & Sunday Times £195
- Tekkie CD £99
- Pro Artisan v2 £149

Memory Upgrades

- A310 to 2Mb RAM £89
- A310 to 4Mb RAM £149
- A3000 to 2Mb RAM £49
- A3000 to 4Mb RAM £119
- A3010 to 2Mb RAM £49
- A3010 to 4 Mb RAM £135
- A3020/A4000 to 4Mb RAM £79
- A410/1 to 2Mb RAM £40
- A410/1 to 4Mb RAM £80
- A420/1 to 4Mb RAM £120
- A540 additional 4Mb RAM £249
- A5000 to 4Mb RAM £79
- A5000 2Mb to 8Mb RAM £349
- A5000 4Mb to 8Mb RAM £359
- RiscPC additional 2Mb RAM £85
- RiscPC additional 4Mb RAM £149
- RiscPC additional 8Mb RAM £299

(A310 upgrades are dealer fit only - we will collect, fit and deliver computer back for £25)

LaserDirect Printers

Print at high speed up to 600dpi resolution with Computer Concepts' LaserDirect printers.

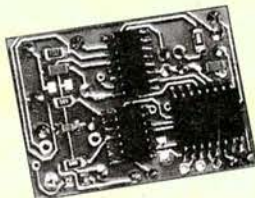
- LaserDirect HiRes 4ppm £799
- LaserDirect HiRes 8ppm £1099
- LaserDirect card for LBP4+ £37

ArcLaser Printers

This range of direct-drive laser printers for the Archimedes gives excellent high speed printing. Models available range from 300dpi A4 size to 1200dpi A3 size.

- ArcLaser A4 300dpi £895
- ArcLaser A4 1200dpi £985
- ArcLaser A3 1200dpi £4995

VIDC Enhancer



The Watford VIDC Enhancer for the Archimedes 300/400 and A3000 computers, caters for all types of Multiscan and VGA monitors.

A disc of utilities is supplied to allow you to define your own modes, and change existing ones. A desktop mode selector is also supplied

- Multiscan VIDC Enhancer £15
- SuperVGA VIDC Enhancer £29
- 9 to 15 pin VGA Adaptor £9

Archi Hand Scanner

Watford's MKII hand scanner for the Archimedes and A3000 has a maximum resolution of 400dpi, and a scan width of 4". The software is supplied on ROM, so there are no discs to load. Features include: cropping and scaling images, X flip and Y flip, and edge detection allows you to transform solid images into outlines.

- A300/400/A5000 version £89
- A3000 external version £109
- v1.10 ROM Upgrade £20

Upgrade to A4 Scanner

For existing users of the Watford MK2 Hand Scanner we can offer you an upgrade to the A4 Scanner for only £129

Archi A4 Scanner



The 216mm scanning width can cope with both desktop scanning of single sheets, photographs, etc, with its detachable sheet feeder, or used as an A4 wide hand scanner. 64 grey levels are produced from the scanner at resolutions up to 400dpi. The software included on ROM allows you to adjust contrast and brightness of the scanned image, rotate, shear and cut out sections of the image. The scanner uses a green light source which gives improved contrast on images over conventional red light scanners.

- A4 Scanner for A300/A400 £199
- A4 Scanner for A3000 £229
- Sheet Feeder for A4 Scanner £69

PC Cards

Transform your Archimedes so you can run standard PC MS-DOS software and even Windows 3.1 with the Aleph One range of PC cards.

- 386 1Mb RAM - A3020/A4000 £225
- 486 4Mb RAM - A3020/A4000 £420
- 486 25MHz 0Mb RAM - A5000 £369
- 486 25MHz 4Mb RAM - A5000 £529
- 486 50MHz 0Mb RAM - A5000 £449
- 486 50MHz 4Mb RAM - A5000 £609

Coming soon...

a revolution in scanning technology for your Archimedes or RiscPC computer. Call 0582 745555 for more details

Archi Accessories

- A3000 Keyboard Dustcover £5
- A3000 Combined Dustcover £9
- A3010 Keyboard Dustcover £5
- A300/400 Dustcover £9
- Archi Keyboard only Dustcover £5
- A5000 Dustcover £9
- 14" Monitor Dustcover £6
- Perspex Keyboard Cover £8
- A3000 Monitor Stand (Acorn) £29
- A3000 Monitor Stand (WE) £16
- A3000 Podule Case £15
- A3000 Carry Case £10
- A4 Notebook Carry Case £35
- A4 Notebook Battery Pack £49
- A4 Notebook Mains Adaptor £69
- Archi Keyboard Extension Lead £8
- Replacement Mouse (Acorn) £39
- Archi MK4 Replacement Mouse £29
- Quest Tracerball £25
- Mouse Port Splitter £10
- Voltmace Delta Cat Joystick £25
- Archi Cordless Mouse £29

Fax/Modem Bundle

Now you can use your Archimedes computer as a fax machine. Prepare a fax, send it using the ArcFax software. Receiving a fax is simple - display on the screen or print out on any RISC OS printer.

- Fax/Modem with ArcFax software £199

Archimedes Spares

- Cased Archimedes keyboard £99
- Replacement Archimedes keyboard £75
- A3000 replacement keyboard £35
- A300/A400 power supply unit £79
- A3000 power supply unit £49
- A540/R260 power supply unit £79
- A5000 power supply unit £69
- 3.5" FDD for A3000/A400/A540 £49
- 3.5" FDD for A5000/A4000 £49
- ARM2 CPU £29
- MEMC 1A memory controller £25
- VIDC video controller £39
- IOC I/O controller £39
- Fan filter £4
- Digitech mouse cable £12
- Logitech mouse cable £12
- Logitech mouse ball £7
- Replacement keyboard cable £17
- 1.2v NiCad battery for A3000 £5
- AA batteries for A300/A400 (2pk) £2
- Function keystrip holder £4
- Eject button for Citizen FDD £2
- Loudspeaker £6

ARCHIMEDES SOFTWARE

Below are listed the more popular software titles for the Archimedes. If you cannot see the title you require, please call for price and availability.

Educational

10 out of 10 Early Essentials	£18
10 out of 10 Junior Essentials	£18
10 out of 10 Maths - Number	£18
10 out of 10 Maths - Algebra	£18
10 out of 10 Maths - Statistics	£18
10 out of 10 English	£18
10 out of 10 French	£18
10 out of 10 Dinosaurs	£18
10 out of 10 Driving Test	£18
Advantage	£32
Animated Alphabet	£18
Animated Numbers	£18
An Eye for Spelling	£31
Arventure I - Romans	£24
Arventure II - Egyptians	£24
Arventure III - Vikings	£24
Around the World in 80 Days	TBA
Aztec	£37
Badger Trails	£34
Best Four Adventure	£34
Best Four Language	£34
Best Four Maths	£34
Body	£17
Bookbinder	£43
Bookstore - Primary	£35
Bookstore - Secondary	£52
Britain since 1930	£26
Bumper Disc 1	£14
Bumper Disc 2	£14
Connections	£27
Converta Key	£9
Crystal Rain Forest	£34
Desktop Stories	£35
Dream Time	£19
Export, Trade and Industry	£34
First Page	£39
First Logo	£20
Farm (5-7 years)	£18
Fleet Street Phantom	£22
Food for Thought	£17
Fun School 3 Blue (under 5)	£17
Fun School 3 Red (5-7 years)	£17
Fun School 3 Green (over 7)	£17
Fun School 4 Red (under 5)	£17
Fun School 4 Green (5-7 yrs)	£17
Fun School 4 Blue (over 7)	£17
Geordie Racer	£24
Glimpse	£8
Graph IT	£17
Hiligher	£30
Insight	£68
Investigating Maths	£34
Jigsaw	£18
Landmarks - Aztec	£17
Landmarks - Civil War	£17
Landmarks - Columbus	£17
Landmarks - Egypt	£17
Landmarks - Elizabeth I	£17
Landmarks - Rainforest	£17
Landmarks - Victorians	£17
Landmarks - World War II	£17
Linkword - French	£32
Linkword - German	£32
Linkword - Spanish	£32
Maggie	£58
Making of the UK	£35
Mapping Skills	£25
Mapventure	£22
Medieval Realms	£35
Naughty Stories vol.1	£48
Naughty Stories vol.2	£48
Numerator	£33
Picture Book	£14
Podd	£23
Recall	£36
Seelinks - Ourselves	£26
Seelinks - Pondwatch	£34
Seelinks - Tourism	£54
Seelinks - Transport	£34
Selladore Tales	£23
Settlement	£30
Snippet	£31
Space Mission Mada	£22
Splash	£18
Stig of the Dump	£21
Story Starts	£24
Talking Pendown	£59
Teddy Bears Picnic	£22
Topographer	£62
Victorians	£19
Viewpoints	£33
Wizards Revenge	£16

Games

Adventures of Sylvia Lane	£19
Air Supremacy	£13
Apocalypse	£14
Arcade 3 Compilation	£11
Battle Chess	£21
Birds of War	£25
Black Angel	£23
Boogie Buggie	£14
Break 147 & Superpool	£24
Bug Hunter in Space	£9
Carnage Inc.	£20
Cataclysm	£15
Champions Compilation	£21
Chess 3D	£14
Chocks Away Compendium	£26
Chocks Away Extra Missions	£12
Chopper Force	£18
Crystal Maze	£29
Cyber Chess	£25
Cycloids	£17
Demons Lair	£18
Diggers	£18
Dungeon	£24
Ego Repton 4	£17
Elite	£31
Enter the Realm	£17
E-Type Compendium	£17
E-Type Extra 100 Miles	£12
Fervour	£18
F.R.E.D.	£17
Galactic Dan	£14
Games Wizard	£17
Gods	£18
Greivous Bodily Arm	£14
Haunted House	£20
Heimdall	£24
Hero Quest	£21
Holed Out Compendium	£12
Interdictor 2	£22
Ixion	£22
Jahangir Khan Squash	£19
James Pond	£18
James Pond 2 - Robocod	£21
Lemmings	£18
Lemmings 2 - Tribes	£24
Lotus Turbo Challenge II	£18
Mad Professor Mariati	£14
Magic Pockets	£22
Master Break	£13
Man at Arms	£14
Manchester Utd in Europe	£18
Nebulus	£18
Oh No! More Lemmings	£14
Omar Sharif's Bridge	£18
Pandora's Box	£17
Pipe Mania	£15
Play It Again Sam 1	£17
Play It Again Sam 2	£17
Play It Again Sam 3	£17
Populous	£21
Powerband	£14
Powermonger	£24
Quark	£19
Quazar	£10
Real McCoy 2	£21
Real McCoy 3	£21
Real McCoy 4	£21
Return to Doom	£16
Repton 3	£14
Saloon Cars Deluxe	£24
Sensible Soccer	£22
Sim City	£21
Simon the Sorcerer	£32
Stunt Racer 2000	£24
SWIV	£18
Sylvia Lane	£18
Striker	£17
Technodream	£18
The Last Ninja	£18
Twin World	£13
Virtual Golf	£24
Warlocks	£24
Worldscape	£16
White Magic 2	£15
Xenon 2	£20
Zool	£16

NEW GAMES

Diggers	£18
Sensible Soccer	£22
Simon the Sorcerer	£32
Crystal Maze	£29

DTP

Impression Junior	£63
Impression II	£109
Impression Borders Disc	£12
Impression Business Sup.	£38
Impression Style	£79
Impression Publisher	£135
Impression Publisher OPI	£223
Ovation	£82

DTP Utilities

Desktop Thesaurus	£16
Equasor	£36
Show Page	£139
Spellmaster	£42
Sleuth OCR	£40
Type Studio	£37
Optical OCR	TBA

Word Processors

DeskEdit 3	£24
Data Word	£14
Easiwriter II	£114
Easiword Plus	£42
Pendown	£45
Pendown Plus	£67
Primeword	£50
Wordz	£84

Databases

Eureka	£95
ProSheet	£39
Resultz	£105
Schema	£89
DataVision	£66
Flexifile	£68
Genesis Project	£49
Genesis Professional	£119
Knowledge Organiser	£75
Masterfile III	£45
Multistore v2.01	£99
Pinpoint v2	£83
Pinpoint Junior	£23
Recordz	TBA
S-Base v2 Developer	£139
S-Base v2 Personal	£69

Integrated

Acorn Advance	£85
Desktop Office	£69
Pipedream 3	£55
Pipedream 4	£93
Fireworkz	£129

Languages

Acorn Desktop Assembler	£118
Acorn Desktop C	£179
Acorn PC Soft	£89
Control Logo	£20
Easy C	£45
Logotron Logo	£45
RiscBASIC Compiler v3.0	£66
RiscFORTH Compiler	£66
Robo Logo v1.1	£37

Site Licences

Advance Primary Licence	£181
Advance Secondary Licence	£440
Artworks	£540
Impression Style	£435
Impression II	£542
Ovation DTP	£475
Pinpoint	£379
Pipedream 4	£695
S-Base	£399

Communications

ArcTerm 7	£64
Hearsay 2	£75
ArcFax	£35 + VAT

Graphics

New Release

ProArt 24 is the latest addition to Clares range of graphic packages. Written for the new RiscPC, this powerful software takes advantage of the machines 24-bit colour capabilities and more.

ProArt 24 £139

Artisan 2	£42
Autosketch II	£65
ArcTist	£14
Atelier	£59
Artworks	£105
Chartwell	£24
Craftshop 1	£18
Craftshop 2	£18
Euclid 2	£59
Film Maker v5.1	£55
GraphBox	£54
GraphBox Professional	£102
Illusionist	£68
Image Animator	£65
Kid Pix	£34
Plot	£66
Poster	£74
Presenter GTI	£65
PrimeArt	£46
Pro Artisan 2	£99
ProArt 24	£139
Render Bender II	£89
Rephorm	£49
Revelation II	£74
Revelation Image Pro	£125
Solids Render v5.1	£75
Titler	£114

CAD

Arc PCB v1.8	£79
Arc PCB Professional v3.2	£169
Arc PCB Schematics v5.1	£229
CADet	£125
SolidCAD v5.1	£65
SolidTools v5.1	£169
PowerRouter	£129
Excellon Drill	£53
Oak Parametric Design Tool	£149
WordCAD	£69

Business

Business Accounts System	£275
Business Account Modules	£85
Payroll Manager v2.0	£66
Prophet Accounts	£131
Home Accounts	£33
Financial Accountant	£225
Shareholder Professional	£195
Micro Trader System	£275
Micro Trader Modules	£75
PlanING	£95
ProjectING	£295

Music

Rhapsody 2	£45
Rhapsody 3	£78
Notate	£57
Armadaus	£55
Vox Box	£45
Score Draw	£45

Printer Drivers

Expression PS	£19
Citizen Colour Driver - OS 2	£15
Deskjet 500C/550C Driver	£15
Epson JX Printer Driver	£15
Star Colour Driver - OS 2	£15
TurboDriver - Canon BJ	£39
TurboDriver - Epson Stylus	£39
TurboDriver - HP	£39
Show Page	£139
Repro	£42
Printers upgrade disc	£5
ImageMaster scanner software	£35
Twin drivers for scanners	£20

Books

IHelp - RISC OS 3	£10
IHelp - Draw	£16
Archimedes Assembly Lang.	£15
Archimedes Operating Syst.	£16
A3000 Technical Manual	£29
A5000 Technical Manual	£65
A3010/A4000 Technical Manual	£30
A540 Technical Manual	£66
A4 Technical Manual	£65
A4 Portable Handbook	£7
A4 Welcome Guide	£10
Ansi C Rel.4 User Guide	£26
Acorn to PC	£5
Artworks Made Easy	£15
Archi Games Maker Manual	£15
ARM Technical Data Manual	£10
BBC BASIC Reference Guide	£20
Budget DTP on the Arc	£13
Beginners Guide to Wimp Prog.	£13
Basic Wimp Programming	£15
C: Dabhand Guide 3e	£17
C Programming Language	£27
Control on the Archimedes	£10
First Impressions	£28
File Handling for All	£10
First Steps in Prog. RISC OS	£15
Good Impressions	£25
Graphics on the Arm	£15
Impression II - Dabhand Guide	£15
Mastering 1st Word Plus	£14
RISC OS Style Guide	£10
RISC OS 2 Prog. Ref. Man.	£79
RISC OS 3 Prog. Ref. Man.	£99
RISC OS 3 Apps/User Gd.	£20
RISC OS 3 First Steps	£15
RiscPC 600 Welcome Guide	£5
RiscPC 600 Technical Man.	POA
Wimp Programming for All	£13

Software Bundles

• Arventure	£65
Romans, Egyptians, Vikings	
• Linkword	£87
French, German, Spanish	
• Lemmings & Oh No! More Lemmings	£27
• Crystal Maze & Games Wizard	£44
• Artworks & Clip Art CD	£119
• Impression II & Business Supplement	£130
• PC Emulator & Acorn Advance	£155
• Ovation & Thesaurus	£69

SPECIAL OFFERS

• Acorn DTP	£15
• 1st Word Plus	£10
• Lemmings	£10
• Quest for Gold (HD)	£5
• Pacmania	£5
• Genesis	£15

Printer Drivers

AUN/Level4 Fileserver	£369
TCP/IP Protocol Suite	£199
Speech!	£17
Investigator 3	£49
DFS Reader	£5
MultiFS	£18
Articulate	£45
AudioWorks	£38
Compression	£54
GerberPlot	£38
Hard Disc Companion v2	£69
Oak Logic	£38
Ancestry	£58
RISC OS 3 ID Utilities Discs	£10
RISC OS Upgrade - TV Digi	£25

Laser Printers

All Laser printers (excluding HP Lasers) include 12 Months On-Site maintenance

Brother HL6	6ppm	£422
Brother HL6V	6ppm	£465
Canon LBP4+ 1.5M RAM	4ppm	£635
Canon LBP4U	4ppm	£480
Canon Laserjet 4i		£480
Canon LBP-8 Plus IIIR	8ppm	£1559
Canon LBP-8 IV 600DPI	8ppm	£925
Epson EPL5000	6ppm	£433
Epson EPL-5200	6ppm	£483
Epson EPL-7500 PS	6ppm	£1135
Fujitsu VM600	6ppm	£529
HP Laserjet 4 ML	4ppm	£745
HP Laserjet 4	8ppm	£949
HP Laserjet 4L	4ppm	£466
HP Laserjet 4M	8ppm	£1284
HP Laserjet 4P	4ppm	£716
HP Laserjet 4MP	4ppm	£975
HP Laserjet 4Si	16ppm	£2175
HP Laserjet 4SiMX	16ppm	£3259
NEC 610 Super Script	6ppm	£422
OKI OL400EX	4ppm	£379
OKI OL410EX	4ppm	£523
OKI OL 850 PS	8ppm	£770
Panasonic KX-P4400	4ppm	£360
Panasonic KX-P4410	5ppm*	£424
Panasonic KX-P4430	5ppm*	£527
Panasonic KX-P4440	10ppm*	£777
Panasonic KX-P5400 PS	4ppm	£599
Star LS-5	5ppm	£365
Star LS-5 EX (RISC Based)	5ppm	£499
Star LS-5 TT True Type+Mac	5ppm	£530

Laser Toners

Canon 2, 3 & 4	£52	KX-P4400/5400	£12
Canon LBP4U	£52	KX-P4450/501/55	£19
Canon 8/Star LP8	£52	KX-P4410/30	£27
Canon LBP8-IV	£65	KX-P4420	£22
Epson GQ	£14	NEC 290	£78
EPL 40/41/4300	£63	NEC S60/60P/62P	£89
EPL 5200	£85	OKI OL400/800	£19
EPL 71/7500	£117	OKI OL400e	£17
HPII/D, I/II/D	£52	Star LP4	£48
HP IIP, IIIP	£46	Star LS5	£63
HP4/4M	£70	VM800 8K pages	£99
HP Laserjet 4L	£45	Qume Crystal(3)	£99

Laser RAM Upgrades

Type	1M	2M	4M	8M
HPIIP; I/II/P/D	£54	£90	£132	
HPII & IID	£65	£110	£175	
HPIIIsi	£57	£85	£158	£299
LJ4/4L/4M	£65	£85	£150	£299
EPL40/41/4300	£70	£110	£205	
EPL 50/5200	£58	£115	£215	
KX4410/30	£70	£110	£199	
KX4420/50i	£65	£89	£149	
KX4400	£89	£129	£239	

Jetpage Postscript Cartridge

● HP IIP/IIIP	£225	● IID & III	£227
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Various Add-Ons

- HP Premier Font Collection £19
- Laserjet Various Font C'tridges from £45
- HP Postscript Module for LJ4 £270
- Jetdirect Ethernet Card for Laserjet £339
- IIsi/4/4Si £339
- 500 Sheet paper cassette (3rd Bin) £205
- HPIIP/IIIP Lower Cassette Tray £115
- Canon LBP-4 Lower Cassette Tray £96
- Ozone Filter P4420 £9; P4450/55 £20

Despite appearances, we offer you very little choice.

At Watford Electronics, we will only offer any product when we are convinced that we can sell it at the best price with the right level of support. It's an approach that our thousands of customers appreciate, for we are now celebrating twenty-one years in the business. So as you look through all the lists of items that follow and discover how competitive we are, you'll discover just how little choice you have. **You simply must call us.**



Panasonic Printers

Printer	CSF	Ribbon
KX-P1150	£89	£59
KX-P1624	£210	£126
KX-P1695	£267	£126
KX-P2023	£109	£155
KX-P2123M	£127	£69
KX-P2124	£209	£89
KX-P2624	£255#	£126

- #Includes 12 months on-site warranty
- Colour Kit for KX-P2180; KX-P2123 and KX-P2124 £30
- Dustcover for 80 column printers £6
- Serial Interface for above Printers £46
- Black Ribbons for P1081, 1180, 1124 £7
- 32K Buffer for above Printers £16
- P.S. Our original Panasonic Ribbons are guaranteed to last 3 million characters.

Canon Bubblejet Printers

Printer	CSF	2nd Bin	Ink Cart
BJ10SX	£141	£43	£15
BJ200	£183	—	£16
BJ230	£243	—	£16
BJ300*	£322	£88	£11
BJ300*	£372	£92	£11
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Q I HAVE an A3000 upgraded to 4Mb and RISC OS 3 and am now seriously looking to add a hard disk. I am looking for around 60Mb of storage and am shocked by the prices companies charge. My friend owns a PC and prices for PC hard disks seem a lot cheaper than for the Acorn platform.

My friend seems to think that if I buy an IDE interface for my computer then I can shop around for a cheap IDE hard drive. Is he misinformed? And if not what price can I expect to pay for a 60-80Mb PC IDE drive and an IDE interface?

If my friend is wrong, are there any cheaper alternatives to buying a seemingly more expensive SCSI hard drive? What are the advantages and disadvantages of IDE and SCSI hard drives?

David Richardson,
Otterbourne, Hampshire

A You can, in theory, get an IDE from a PC dealer to work on an Archimedes computer. Unfortunately, it is often fraught with problems. The major snag is that the PC market is very cut throat and not only price, but also performance, gets cut to the bone.

Consequently, a lot of PC drives just aren't of a high enough specification to be used in the high speed Archimedes, also many PC drives don't live up to their published specification. Therefore, it is very difficult to know in advance if any particular disk will work and your average PC dealer is not going to know.

I think that you have two choices. First of all you can go to an Acorn dealer. He has searched the market to bring you a disk that will work and knowing the Acorn machines, he will make sure that it works. Of course you

pay for his knowledge.

Secondly you could ring up a PC dealer and arrange to go round on some quiet day and have him fit an IDE disk there and then so that you can make sure it works. Of course, you don't get as good a price as a mail order box shifter, but the difference can be eaten up very quickly in returned boxes.

I would go for a drive of a greater capacity than a 60Mb one. You will be amazed at how quickly this fills up, I would recommend at least a 160Mb nowadays. My first hard disk on a computer was 5Mb – that seemed large enough at the time but is now just a joke.

SCSI drives are more expensive but if you have any further plans for expansion it can work out cheaper in the long run. As you know, the SCSI system allows you to fit not only hard drives but CD readers, scanners, tape streamers, optical drives and a host of other devices – it would be my personal choice.

No room

Q I WOULD like a hard disk for my A3010, but I have a printer linked through the parallel port and have used up my single expansion slot with a digitiser. I am 14 with no income, so price limits me a lot. I would like a 100-150Mb drive linked through the serial port, if that is possible for a reasonable price.

Also what would be the best compression system, how much longer would things take to load and how much would it compress things by?

Guy Twinning,
Randwich, Gloucester

A Connecting a hard drive to a serial port is not such a good idea as the data transfer rate would be very slow and you would need extra electronics and a new filing system module. But just when you have run out of expansion options Atomwide come to the rescue. They produce a SCSI adaptor that plugs into your printer port and still allows your printer to work.

This opens up the world of SCSI devices which, while a bit more expensive than IDE hard drives, are much more versatile. Besides which, with your expansion requirements you

AGENDA

- Powerless BBC B
- Printer drivers
- Low cost IDE
- Clock settings
- Delayed start up
- Limited expansion
- Dodgy keys
- Transporting BBCs

Moving onwards and upwards

Mike Cook delves into his postbag to answer a selection of your queries and posers

do not have much choice.

As to compression, if you used it on everything as a matter of course, it can lead to problems during boot up sequences. However, this sort of system could save you up to 50 per cent of disk space. I much prefer to use compression on specific large files, mainly images.

There are two types of compression here – loss free and lossy. At the moment, a GIF format can get up to three times compression on some images and even more on diagrams.

The JPEG system is designed for photographs and although it reduces the quality slightly, the compression can be staggering. I have a weather picture taken from a satellite that is 1.2Mb when compressed with JPEG which reduces to 56k.

Delayed response

Q I HAVE developed a problem with my Archimedes 420/1 4Mb ram 40Mb hard disk ST506. When I reset the computer from the keyboard or by switching off and on, the hard disk appears

HOW does Bill Gates – the Chairman of Microsoft – change a light bulb?

This one is easy, he doesn't change it, he simply declares dark as a standard.

Time flies

Q ON switching on my computer the time, day and date are always the same. The clock will then continue to keep time, but not accurately, until midnight and then resets back to the time at switch on.

I am unable to alter the year and this seems to stay okay. Needless to say the alarm side of the clock does not work. This problem only occurred after upgrading to RISC OS 3.11 which I think would be pure coincidence. I hope you can shed some light on this as the alarm is quite important to me.

F Langton, Ormskirk, Lancashire

A There are two possible causes of this problem. The first is that your machine's batteries need replacing, when was the last time you did this? A good rule of thumb is that if the batteries have been in more than a year and the clock gives trouble then replace them.

The other thing is that you could be having problems after your upgrade due to old data in your parameter ram. If the fresh batteries fail, try turning on the computer while holding down the Delete key.

This will reset your configure options – see the RISC OS 3 user guide, page 212 for more detail. If this fails then you might have a faulty clock chip or crystal so take your machine to a service centre and find out.



to be activated and sounds as if it is working normally. After some time an error appears on screen. If I start up again the same occurs.

If I turn off and wait 50 seconds I can then restart as normal. There does not seem to be anything wrong with the hard disk which behaves normally and verifies without errors.

N A Gortmans, Verwood, Dorset



It sounds as if you do have a problem on your disk drive. When you perform a reset from the keyboard your drive is asked to set itself up again. The fact that the light comes on and stays on suggests that the drive is not able to do this.

This could be due to the heading sticking, or some other mechanical or

electrical hang up. When you turn off for a longer time things have time to free themselves and, once working again, are temporarily alright. Hard disks sometimes give you little warnings like this before they fail altogether. So as a matter of urgency I should back

everything now.

As hard drives are sealed units there is little in the way of maintenance you can perform. So you can carry on until a failure occurs, this might not happen for a few years, or you can get it replaced.

You can write to Mike Cook c/o Acorn Computing, Europa House, Adlington Park, Macclesfield SK10 4NP.

He will answer any questions about difficulties you may be having with your machines, mainly those to do with hardware. If you want a personal reply ensure that you enclose an SAE with your letter.

Portable monitor blues

Q WHILE visiting the UK recently from Mexico where I work in an international school, I bought a second-hand BBC B and carried it with its RGB monitor back to Mexico. I have a considerable amount of software for primary education and still regard the Beeb as an excellent tool for primary teaching.

The machine works perfectly from a step-up transformer – the main supply voltage here is 127V – and I would like to buy more Beebs, but I do not want to carry monitors back.

I remember seeing a Body Building article about using PC monitors with the Beeb. Is the article and circuit pack still available?

P A Nevett, Queretaro, Mexico



All past articles from the Body Building Course are available as reprints for a nominal £1 from Musbury Consultants, 5 Helmsshore Road, Haslingdon, Rossendale BB4 4BG. This one was in the May 1990 issue.

However, not all PC monitors will work with the Model B. It is only the CGA type that will lock to the sync signal. There is a further complication, in that a foreign sourced monitor might not be persuaded to lock to the 50Hz frame rate of a Model B as opposed to the 60Hz rate it wants to lock to.

Remember that with a Model B there is no need to use the sync separator circuit I designed, as the separate syncs can be coaxed out of the board. It's a little complex so please see the article for full details.

On and off



EVER since I fitted RISC OS 3.1 to my A3000, I have had an intermittent keyboard fault. Caps lock, B, N, /, space, cursor left and some of the numbers in the numeric keypad do not operate.

The fault never occurs when I use Intersheet but frequently does on Ovation and Hearsay. I have tried removing and re-fitting the keyboard connector and it has not made any difference.

C G Lake, Billericay, Essex



As I have often said, intermittent faults are the hardest to find. I also find it hard to believe that you have never had this problem with one piece of software but frequently with another. As the keyboard handling is done by the operating system it should make no difference what software you use.

That being said, when a string of keys goes down like this it normally points to one of the lines in the keyboard's matrix. Unfortunately, the A3000 technical reference manual does not give all the keyboard circuitry to confirm this, but I am pretty sure.

The most likely thing to go is the connector and, as you have tried re-fitting the keyboard connector without success, it is time to get it replaced with a new one. It is most probable that one of the spring contacts is loose. If a new cable does not do the trick then you will have to replace the socket SK7.

Before you do, however, it might be worth trying to bend the spring contacts out slightly with a fine sewing needle. You could also try cleaning it with some isopropyl alcohol. Please do not use spray cleaner as this cleaner could damage the plastic of the socket.

Undriven printers



I HAVE an A3000 running RISC OS 3 and have recently purchased a Citizen Swift 200C printer. However, I am unable to print anything using software such as Pendown, Full Phase or Easiword without one of these errors:

- A code is printed above the text
- The screen flashes Printer drivers cannot handle unknown OS_Sprite op reason codes

I would be grateful if you could suggest a solution.

D Chapman, Hugglescote, Leics



Your computer is sending control codes to your printer. Unfortunately, your printer does not know what these codes mean so is mistaking them for things to print, hence the rubbish at

the top of your sheet.

As there are many different types of printers all using different codes to control them, the computer has a set of printer drivers. These are pieces of software that translate the actions the application wants to do into control codes which are sent to the printer. Acorn already provide you with examples of some of these printer drivers on the applications disk that came with RISC OS 3.

However, while there are drivers for the Swift range of printers there is none for the 200C. The simplest solution is to try all the non-postscript drivers on the disk in a hope that one comes close to your printer.

Try the Epson ones first and use the lowest quality and resolution of each device. Failing that, you could define your own printer driver using PrintEdit as described on page 185 of the RISC OS applications guide. However, you would probably need some expert help to use this.

The second error is related to this and should disappear with the right printer driver. However, I would check that no naughty game has been unplugging your modules.

Tired and lonely



I AM having start up trouble with my Model B and WordWise which I have had since the early days but have not used for about 12 months. When I switch on it will not start up.

After various tried I find that by leaving it on for about three hours – although without the usual BBC coming up – then turning it off after a couple minutes, I can switch on, wait for the usual buzz then press Break. Up comes the BBC and from then on there is no trouble – for a couple of hours.

If I switch off again then after a pause switch on, I have to press Break for the computer to start up. Having a 5.25in disk drive I have an updated power supply.

H J Luff, Milton, Cambridge



Well, it's quite a few years since I have had one of these letters so a repeat of my advice would seem in order. The Model B was notorious for not starting up because of the keyboard connector ribbon cable. This was especially the case after a long lay-off as the contact became poor.

The solution is simple. Remove and replace the ribbon cable pushing it firmly in place. If that does not do the trick, try pushing down the connectors and ICs in the sockets. Press Break after each go, but there is no need to let it warm up – a bit of jiggling will do.

Once a fortnight



I ORDERED a Risc PC from my local dealer and he promised it would be in stock today. Acorn have just informed him that delivery won't be for two weeks. Thus the familiar and deadly Fortnight Virus is once again rampant at Acorn.

A particularly pernicious (good word that – Ed) feature of this virus is that it triggers each time the penultimate day of the preceding fortnight is reached.

There is some hope on the horizon, however. I am told that one bite from the recently discovered PowerApple fruit affects an immediate cure.

A. Stevens, St Albans

We're not apologists for Acorn – life's too short – but there have been supply problems that have not been Acorn's fault. Having said that, Acorn must be the only computer manufacturer that (corporately) has no faith in its own products – demand for the Risc PC has exceeded their expectations by 650 per cent.

Which computer?



I THOUGHT you may be interested to see how Which? deals with the simple problem of computer selection. We use an A4000 and I've used Apricot, HP and others.

The power of our British computer is severely undervalued. This article

doesn't help. Our next computer will probably be another Acorn.

Chris Sheard, Garforth, Leeds

The March 1994 issue of Which? featured an article entitled Computers Compared. This was not one of their consumer surveys but an assessment by so-called experts. Top billing for the general purpose computer under £500 went to the Amiga 1200.

Curiously enough this was the only category in which an Acorn machine was featured, and with an A3010. And what was the testing based on? Lemmings, a racing game, a basic word processor, advanced word processor, ease of word processing and home accounts. And what did the A3010 score best on? Well, the games and the ease of use of the word processors.

The whole Acorn software market and use and viability of the machine was judged on one bundle, which we can only assume was the Action Pack as it doesn't specify.

Education – what is that? And to add insult to injury the over £500 prize went to the Apple Performa 450 and IBM PS/1, Acorn didn't even get a look in.

Whether Which?'s lack of research and understanding of the computer market or Acorn's naivety in handling the general press are to blame, I couldn't possibly comment. Perhaps you'd like to?

If you disagree with the way Which? carried out their assessment we recommend you join this influential organisation and then complain to The Consumer's Association, 2 Marylebone Road, London NW1 4DF.

A risky net?



WITH news of *The Net* starting on BBC2 at 8pm on a Wednesday I

rearranged my plans and prepared to listen to a prime-time and authoritative program about computers in the 1990s.

Imagine my annoyance when this seemed to be a program with the sole intent of selling me an Apple Mac – well, apart from the game review which would have been more at home on Def II.

But, undeterred, I switched on the next week to listen to an authoritative analysis of RISC technology and the PowerMac. I should have known better.

Obviously *The Net* had read and believed Apple's blurb – the stuff

they later retracted for inaccuracy – all about this being the first time RISC technology was going to be available in a low cost machine.

So perhaps Apple and The Net researchers would like to tell me what I have been using for the past seven years? Furthermore, my son's A3010 is sub-£400 as opposed to sub-£1300 for the Apple PowerMac.

P. Benjamin, Poynton, Cheshire

I know and thought exactly the same when I saw the program too. I understand that there will be some Acorn features in a future program but if you want to give true vent to your feelings write to: The Net, Illuminations, 19-20 Rheidol Mews, Rheidol Terrace, Islington, London N1 8NU.

Just think of the irony though. The BBC Education Unit initiated the growth of a standard education machine in this country when it commissioned the BBC Micro from Acorn but in 1994...

Font-u-like



I OWN an A3000 and have recently upgraded to RISC OS 3. For word processing I generally use 1st Word Plus. On experimenting with Edit I noticed its ability to create letters in different sizes and fonts. Am I able to print these different sizes and fonts? If so how?

I suspected my problem lay in the saving of the work because when I reloaded the font and its size they had returned to the default setting. Surely this must mean that the problem does not lie in my JP150 printer for I can print the fonts and sized in Draw.

Andrew Goodson, Harpenden, Herts

Although you can change the display font in Edit you can't print it, because when all's said and done Edit is just a text editor and not a word processor (it was never intended to be).

Frankly, 1st Word Plus was past its sell-by date before it was even ported to the Acorn machines and you really should change to a decent one.

Linking Acorns



I HAVE recently acquired an A5000 to replace my BBC B which I used for a variety of purposes for nearly 10 years. I accumulated a large

The games people play



I HAVE owned an Acorn A3010 for nearly two years and have decided to write my own game. But there are a couple of things I need to know: In Basic what is the command to display a sprite and is the Creator II package any good for beginners?

Also could you tell me if Manchester United Football is as good as Sensible Soccer?

David Aspley, Nuneaton, Warwickshire

There is no simple command to display a sprite, a good starting point is the book The Archimedes Game Maker's Manual by Terry Blunt published by Sigma Press. Also Mike Goldberg's Graphics series in this magazine usually contains sprite-plotting code.

Game preference is very subjective. Manchester United Football and Sensible Soccer are very different games and I can see a Manchester City supporter not buying the former on principle alone. You can read the reviews but only you know what you expect from a football game.

Creator II is a very good package and contains plenty of examples to help you get started.

number of programs on 5.25in disks during that period, many of which I would like to be able to use on the new machine, without having to type them in afresh in Basic.

I have read that there are some firms that offer a conversion service from 5.25in to 3.5in floppy disk commercially. Could you let me know the names of these?

A.S. Fern, Rochdale, Lancashire

There may be companies who perform conversions but you can get software to link the two machines together and transfer the data yourself via the serial ports. Both RISC Developments (0727 840303) and The Really Good Software Company (0582 761395) have suitable software.

Making music



I HAVE an A5000 with Notate and would like to know if it is possible to put music into my computer programs.

Steven Ford, Cheltenham, Gloucestershire

The usual way of putting music into programs – usually games – is to use the Tracker file play module. The music is created using one of a variety of packages, then it's relatively easy to load the Tracker module and for the file to be played.

Tracker-type programs use sound samples, note patterns and loops which means it's easy to create long pieces of music – though they may be a bit repetitive. You can't do this type of thing with Notate because there's no separate play module for Notate files.

By the way, the current Tracker module used in most games does not work on the Risc PC so preventing them from running.

Loose magazines



PLEASE could you inform me if you still sell Acorn Computing magazine binders. I would like to order two if possible. I have not seen them advertised lately in the magazine.

E Leighton, Verwood, Dorset

Magazine binders are available at £5.95 each from Europress Direct, the address is on the subscription page.

8-bit access



MARK Bukowski remarked in the April issue on problems encountered booting his BBC B subscriber disk. I have an 80T subscription and occasionally receive a 40T disk and have had similar problems – especially not knowing I have a 40T disk.

Unfortunately, he doesn't state what DFS he is using nor what disk fault he gets. Every error has a number with a meaning. For example, Escape is error 27 (1B hex).

However, disk fault and drive fault are each followed by another number which then tells you what is wrong. It depends on what this number is as to whether there is any remedial action that needs to be taken by the user.

Disk faults will occur at different points on the same disk when in 40 track mode as to when you are in 80 track mode, since a switchable drive will double-step in 40 track mode.

A useful reference is the Advanced Disk User Guide. I wonder if Mark has tried removing or disabling Disk Doctor, as this is known to

interfere with some software.

I switched to ADT some years ago and found that the repair sector commands are useful when a disk fault occurs. However, I have drives from different companies and have found that your 40T disk will boot on one but not the other, while my other disks work normally.

This points to the fact the the head alignment is marginally different on your duplicating machine and on my drives, leading to the head not reading properly. Of course, another explanation might be that the heads need cleaning.

S. S. Dean was having problems with printer paper and View. I had the same problem, so may I refer him to the manuals, in particular the chapters on margins. There is actually more to it than Mike Cook suggests.

You need to use Shift+F8 to set a margin command. Next, turn the headers and footers off with HE 0 and FO 0 as well as setting the header margin (HM) and footer margin to 0 lines. Of course, no other text should be on these lines otherwise it won't work.

Paul Weddell, Blackpole, Worcester

Modular learning



I WISH to learn how to program modules. How do I go about it? I have some knowledge of Basic. Also I have recently been making some Wimp applications of my own. If I wanted to start my own software company are there any licences that I need to know about?

One more thing. In my Wimp program, I put this DIM statement mid-way through:

```
DIM Menu$(30),Text$(30,25),iconsV$(30),Spr$(30,25),Comm$(30,25),main_Win$(30)
```

When I run this program I get the error *No room for this dimension*. I then tried to put the DIM statement near the start. I got *Too many nested loops at "..."*. What is happening?

Toby Wilkinson,
Fareham, Hampshire

Your problem is very simple, you are not allocating enough memory in the WimpSlot command in the Run file of your application. The first error message is quite clear on that point, the second occurs because having managed to squeeze your DIM into the space

available, Basic doesn't have much room left for actually running the program.

It may seem harsh, but if you need to write to us to solve this simple problem there's no way you can learn to write modules yet. The first thing you need to do is learn how to program to the level where you don't need to write to us.

I don't know what other computer markets are like, but the Acorn one seems to be full of people wanting to start their own companies. First you have to find a product people actually want, or can be made to want.

You need a reasonable amount of capital finance – while it is just about possible to start a company from nothing, the first thing you'll do is run up £100's of debts. I don't want to depress you but starting a company is not something to be undertaken lightly.

If you do have a good product it's much better to go through a known software house who already has the know-how and financial backing to promote the product. You may get a smaller percentage of the profits but you don't have the hassle of running the business.

Want to write to us?
The address is:
Letters, Acorn Computing,
Europa House, Adlington
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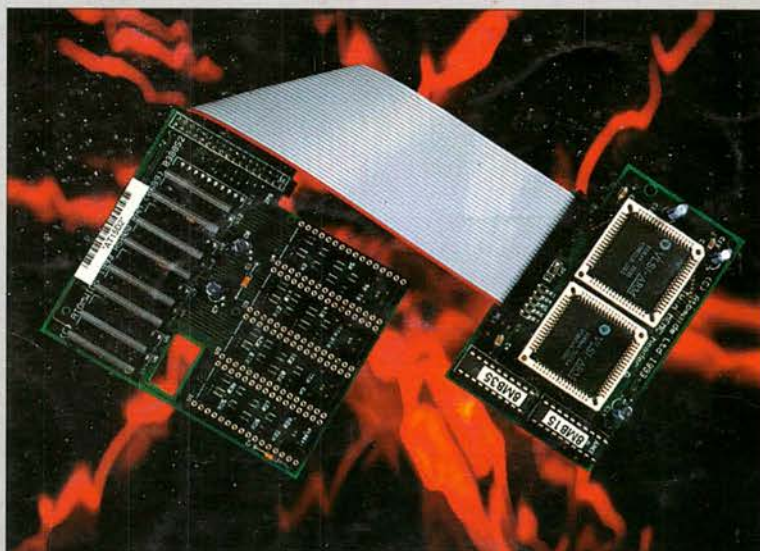
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A5000 - 8Mb memory upgrade



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For those with RISC OS 2 in their machines, a special combination deal exists which consists of the 8Mb memory upgrade, plus a full RISC OS 3 kit from Acorn.



Thousands of users around the world have experienced the advantages of 8Mb of memory. These upgrades have been sold as far and wide as Hong Kong and Australia as well as into Europe. They have a proven track record of reliability. Each upgrade is fitted with a pair of matched MEMC1a devices that have been tested as a pair to ensure perfect operation. Gold plated connectors are used throughout the product range along with 4 layer PCBs. The interconnecting cable interleaves the electrical signals and a ground signal to ensure correct performance. Machined turn pin sockets are used to fit the operating system ROMs to the OS motherboard sockets and still leave all expansion slots available.

Pricing and installation

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